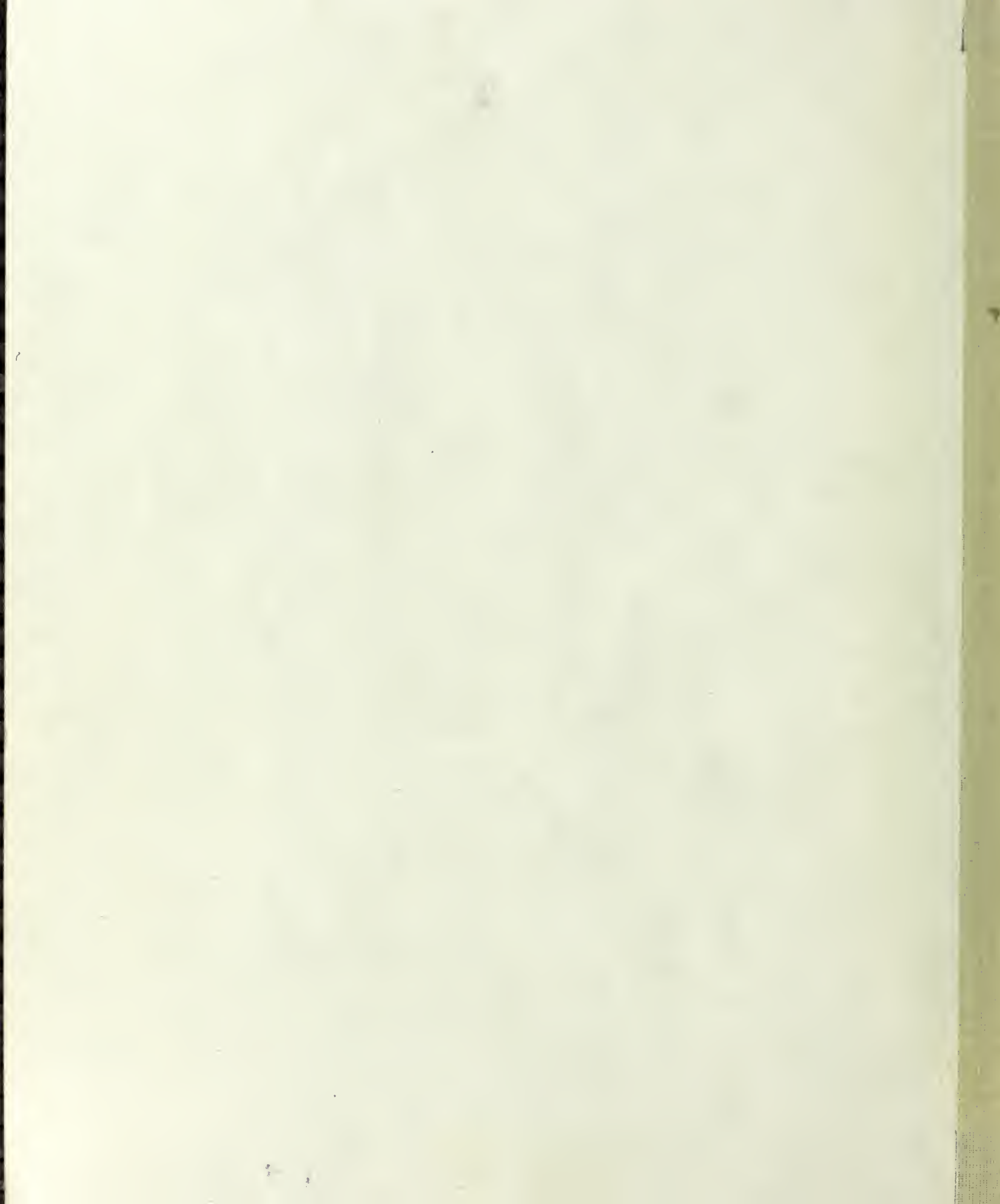


THE IMPACT OF COST ACCOUNTING STANDARD
NUMBER 409 ON THE DEFENSE INDUSTRY

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NAVAL POSTGRADUATE SCHOOL

Monterey, California



THESIS

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NUMBER 409 ON THE DEFENSE INDUSTRY

by

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September 1979

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Recommendations are made concerning the issuance of Cost Accounting Standards and areas for future research.

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The Impact of Cost Accounting Standard
Number 409 on the Defense Industry

by

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Submitted in partial fulfillment of the
requirements for the degree of

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September 1979

ABSTRACT

The purpose of this thesis is two-fold. First, it seeks to develop a defense industry perspective on depreciation in general and Cost Accounting Standard No. 409 in particular. The historical development of the Standard and the issues arising from it provide a framework for evaluation. Second, it evaluates these issues in present terms with accurate data reflecting the opinion and experience of industry representatives. Data were gathered by the use of a questionnaire.

Results show that the Standard had a fairly modest impact on the defense industry.

Recommendations are made concerning the issuance of Cost Accounting Standards and areas for future research.

TABLE OF CONTENTS

I.	INTRODUCTION-----	11
A.	PURPOSE AND OBJECTIVE OF RESEARCH-----	11
B.	STATEMENT OF THE RESEARCH QUESTION-----	12
C.	LIMITATIONS AND ASSUMPTIONS-----	12
	1. Limitations-----	12
	2. Assumptions-----	13
D.	ORGANIZATION AND METHODOLOGY-----	14
	1. Organization-----	14
	2. Methodology-----	15
II.	ACCOUNTING FOR DEPRECIATION-----	16
A.	COMMON DEPRECIATION METHODS-----	17
	1. Straight Line Method-----	18
	2. Declining-Balance Method-----	18
	3. Sum-of-the-Years' Digits-----	18
	4. Activity or Use Methods-----	19
B.	FEDERAL INCOME TAXATION-----	20
C.	FUNDS FLOW IMPLICATIONS-----	20
D.	SUMMARY-----	22
III.	COST ACCOUNTING STANDARD NO. 409-----	24
A.	NEED FOR A STANDARD-----	24
	1. Background-----	24
	2. GAO Study-----	26
	a. Depreciation Method-----	27
	b. Proposed Standard-----	28

B.	EXPOSURE DRAFTS OF A STANDARD-----	29
1.	Background-----	30
2.	Initial Draft-----	31
3.	First Exposure Draft-----	34
a.	Major Features-----	34
b.	Summary of Responses-----	37
4.	Second Exposure Draft-----	42
a.	Major Features-----	43
b.	Summary of Responses-----	44
C.	PROMULGATION OF THE STANDARD-----	46
1.	Final CASB Hearing-----	46
2.	Publication of the Standard-----	49
a.	CASB Comment-----	49
b.	Main Features-----	50
c.	Dissenting Statement-----	51
D.	CONGRESSIONAL HEARINGS-----	53
E.	SUMMARY-----	57
IV.	SURVEYS TO ASSESS THE STANDARD'S IMPACT-----	58
A.	PRIOR REVIEW AND SURVEY EFFORTS-----	58
1.	DCAA Depreciation Survey-----	58
2.	AIA and CODSIA Surveys-----	60
3.	AGA Survey-----	64
4.	CASB Evaluation Conferences-----	64
B.	RESEARCH METHODOLOGY-----	67
1.	Questionnaire Design-----	67
2.	Sample Selection-----	68
3.	Method of Analysis-----	69

V.	PRESENTATION OF THE SURVEY DATA-----	70
A.	RETURNED QUESTIONNAIRES-----	70
B.	RESPONDENT DEMOGRAPHIC DATA-----	70
1.	Company Size-----	70
2.	Government Sales-----	72
3.	Depreciation Expense-----	75
C.	RESPONDENT OPINION-----	76
1.	Clarity-----	77
2.	Control of Costs-----	78
3.	Visibility of Data-----	79
4.	Frequency of Disagreement-----	80
5.	Contract Negotiation-----	81
6.	Contract Administration-----	82
7.	Contract Auditing-----	83
8.	Contract Settlement-----	83
D.	RESPONDENT EXPERIENCE-----	85
1.	Depreciation Method-----	85
2.	Service Life-----	87
a.	Former Method-----	87
b.	Recordkeeping-----	89
c.	Modifying Estimates-----	93
d.	Tailored Estimates-----	98
e.	Adjustment for Unique Assets-----	99
3.	Cash Flow and Profitability-----	100
4.	Impact on Capital Investment-----	105
5.	Erosion of the Defense Industrial Base-----	108
6.	Disputes-----	110

E.	SUMMARY-----	112
VI.	PRINCIPAL FINDINGS, CONCLUSIONS AND RECOMMENDATIONS-----	113
A.	FINDINGS AND CONCLUSIONS-----	113
B.	RECOMMENDATIONS-----	116
C.	REVIEW OF THE RESEARCH QUESTION-----	118
APPENDIX A -	FIRST EXPOSURE DRAFT OF COST ACCOUNTING STANDARD NO. 409-----	121
APPENDIX B -	SECOND EXPOSURE DRAFT OF COST ACCOUNTING STANDARD NO. 409-----	128
APPENDIX C -	PROMULGATED COST ACCOUNTING STANDARD NO. 409-----	131
APPENDIX D -	DCAA QUESTIONNAIRE-----	140
APPENDIX E -	THE SURVEY QUESTIONNAIRE-----	142
	BIBLIOGRAPHY-----	147
	INITIAL DISTRIBUTION LIST-----	151

LIST OF TABLES

I.	RECAP OF QUESTIONNAIRE ON CONTRACTOR FIXED ASSET RECORDS-----	59
II.	BENEFITS OF COST ACCOUNTING STANDARDS-----	61
III.	BENEFITS TO THE GOVERNMENT-----	62
IV.	EFFECT ON ACCOUNTING PRACTICE-----	63
V.	COST IMPACT-----	63
VI.	AGA SURVEY ON COST ACCOUNTING STANDARDS-----	65
VII.	TOTAL ANNUAL SALES-----	71
VIII.	U.S. GOVERNMENT SALES-----	72
IX.	PERCENTAGE OF GOVERNMENT SALES TO TOTAL SALES-----	73
X.	PERCENTAGE OF GOVERNMENT SALES THAT ARE CAS COVERED-----	74
XI.	DEPRECIATION EXPENSE AS A PERCENTAGE OF COST OF GOVERNMENT SALES-----	76
XII.	CLARITY WITH WHICH THE STANDARD COMMUNICATES ITS REQUIREMENT-----	77
XIII.	EFFECT ON THE CONTROL OF COST-----	78
XIV.	VISIBILITY OF DEPRECIATION DATA-----	79
XV.	FREQUENCY OF CONTRACTOR/GOVERNMENT DISAGREEMENT----	80
XVI.	EFFECT ON CONTRACT NEGOTIATION-----	81
XVII.	EFFECT ON CONTRACT ADMINISTRATION-----	82
XVIII.	EFFECT ON CONTRACT AUDITING-----	83
XIX.	EFFECT ON CONTRACT SETTLEMENT-----	84
XX.	DEPRECIATION METHODS PRIOR TO AND AFTER CAS #409---	87
XXI.	FORMER METHOD OF DETERMINING SERVICE LIFE-----	88
XXII.	EXISTENCE OF ADEQUATE SERVICE LIFE RECORDS-----	90

XXIII.	SERVICE LIFE DATA LACKING-----	91
XXIV.	IMPLEMENTATION AND ANNUAL MAINTENANCE COSTS OF CAS #409-----	93
XXV.	MODIFIED SERVICE LIFE ESTIMATE-----	94
XXVI.	ACCEPTABLE TO CONTRACTING OFFICERS AND AUDITORS-----	95
XXVII.	ADEQUATE GUIDANCE AVAILABLE-----	97
XXVIII.	EQUITABILITY OF TAILORING SERVICE LIFE ESTIMATES-----	99
XXIX.	ADJUSTING LIFE FOR UNIQUE ASSETS-----	100
XXX.	CASH FLOW REDUCTION-----	102
XXXI.	AMOUNT OF CASH FLOW REDUCTION-----	102
XXXII.	HAS DOD PROFIT POLICY AND CAS #414 MITIGATED THE EFFECT OF CAS #409?-----	104
XXXIII.	DID THE STANDARD IMPACT ON THE COMPANY'S CAPITAL INVESTMENT DECISIONS?-----	106
XXXIV.	HAS CAS #409 AFFECTED CAPITAL INVESTMENT FINANCING DECISIONS?-----	107
XXXV.	GOVERNMENT OWNED FACILITIES REQUIRED AS A RESULT OF CAS #409-----	108
XXXVI.	HAS CAS #409 IMPACTED ON CONTRACTOR PARTICIPATION IN GOVERNMENT CONTRACTS?-----	109
XXXVII.	HAS CAS #409 IMPACTED ON SUBCONTRACTOR PARTICIPATION IN DEFENSE CONTRACTS?-----	110
XXXVIII.	EXPERIENCE WITH CONTRACT DISPUTES-----	111
XXXIX.	GENERAL NATURE OF THE DISPUTE-----	112

I. INTRODUCTION

Over the last several years there has been a growing concern within Congress, the Department of Defense and the defense industry over the procurement of weapon systems. Throughout this period rising inflation and increased weapon system sophistication have faced the spectre of limited fiscal resources. A wide variety of industry practice and diverse government regulation clouded the procurement process and made cost and pricing data difficult to evaluate.

At the beginning of the decade the Cost Accounting Standards Board (CASB) was created to establish cost accounting principles to achieve uniformity and consistency in estimating, accumulating and reporting costs on all negotiated contracts. One of the promulgations of the Board, Cost Accounting Standard No. 409, entitled, "Depreciation of Tangible Capital Assets," was involved in an embittered controversy from its inception.

A. PURPOSE AND OBJECTIVE OF RESEARCH

The defense contractor, as a condition of contracting with the Government, is subject to a multitude of regulatory requirements. This study focuses on one area of this regulatory body, Cost Accounting Standards, and attempts to measure the extent to which a particular Standard has impacted on the defense industry.

The objective of this study is two-fold. First, it seeks to develop a defense industry perspective on depreciation in general and Cost Accounting Standard No. 409 in particular. To this end, the historical development of the Standard and the issues arising from it provide a framework for evaluation. Second, it evaluates these issues in present terms with accurate data reflecting the opinion and experience of industry representatives. This objective was met by gathering data by the use of a questionnaire.

B. STATEMENT OF THE RESEARCH QUESTION

The basic research question of this project is: What is the impact of Cost Accounting Standard No. 409 (Depreciation of Tangible Capital Assets) on the defense industry?

In attempting to answer this question, the following subsidiary questions will be explored:

- 1) In the opinion of the defense industry, how has the Standard affected the contracting process?
- 2) How has the Standard affected the accounting practice of the defense industry regarding depreciation?
- 3) What costs, if any, were incurred by the defense industry in implementing the Standard?
- 4) Have cash flow and capital investment by contractors been affected by the Standard? If so, in what way?

C. LIMITATIONS AND ASSUMPTIONS

1. Limitations

The study of Cost Accounting Standards is a broad and complex subject which can be influenced by the individual's perspective. Interpretation of a particular Standard may

differ depending on whether the viewpoint is that of the contractor, contracting officer or auditor. In setting standards, CASB attempts to weigh the costs and benefits associated with them and balance their impact between the contracting parties. This study focuses primarily on the perspective of the defense industry. The viewpoint of the procuring agency and auditors is expressed as it relates to particular issues and where it previously existed in the literature.

Although an attempt has been made to be as comprehensive as possible, space has prohibited this study from stating and analyzing every issue that has been expressed by the defense industry since the Standard's inception. Only those issues and problem areas which have been determined to be significant concerns of industry have been presented and explored.

The timing of this study posed a limitation on the researcher. Several consultants expressed the opinion that many companies had not had enough experience with implementing the Standard to provide any useful data. On the other hand, it was felt that contractors would likely have a clearer memory of their implementing plans and any problems encountered. The study, therefore, was undertaken with the hope that a baseline might be established for subsequent use.

2. Assumptions

This study assumes that the reader commands a general knowledge or familiarity with depreciation and its accounting

treatment for financial reporting, defense contract costing and income tax reporting. It is also assumed that the reader has a broader understanding of the defense procurement process, with particular emphasis on the role of the Cost Accounting Standards Board and the relationship of its promulgations, Cost Accounting Standards, for defense contracting and the accounting practice of the defense industry.

D. ORGANIZATION AND METHODOLOGY

1. Organization

This research study has been organized to provide a step-by-step presentation of facts and issues, analysis of data related to the facts and issues, and the drawing of conclusions and recommendations based on the analysis. Chapter I introduces the subject matter of the thesis and describes the manner in which the study will proceed. Chapter II provides a brief review of depreciation and its treatment for financial accounting, contract costing and income tax reporting. A review of the funds flow implications of depreciation practice is also presented in Chapter II. Chapter III attempts to provide a detailed background concerning the development and promulgation of a Cost Accounting Standard on depreciation. A summary overview of the events leading to the creation of the Cost Accounting Standards Board and its methodology for developing Cost Accounting Standards is also presented in Chapter III. Chapter IV provides a review of prior studies that relate to the Standard. This provides a frame of reference for the research project. Chapter IV

also explains the methodology used for developing the research questionnaire used in this study. Chapter V presents the data and findings yielded from the questionnaire used for this research. Conclusions and recommendations of this study are contained in Chapter VI.

2. Methodology

An initial literature search was conducted by means of the Defense Logistics Studies Information Exchange and Defense Documentation Center. Concurrent library research of periodicals and books was pursued at the Naval Postgraduate School library. Abstracts thus obtained, articles, books and reports yielded a wide spectrum of related material. A letter was sent to several major defense industry and accounting associations to request information related to the Standard. Telephone inquiries were made of the Cost Accounting Standards Board, Department of Defense CAS Working Group, Defense Contract Audit Agency, Logistics Management Institute and Congressional subcommittees that held oversight hearings on the Standard. Materials received and used in this study are referenced throughout the text. Data were collected by using a twenty-six question survey of selected defense contractors. Statistical data displayed in various tables throughout the study were prepared by the author and refer to data collected from the questionnaire, except where otherwise indicated.

II. ACCOUNTING FOR DEPRECIATION

Depreciation as an accounting concept, whether for financial accounting, income tax reporting or contract costing, is a multi-faceted and diverse subject. This section provides only a brief review of depreciation and assumes the reader has a broader understanding of the subject.¹ The need to identify depreciation cost arises from requirements serving several purposes. The National Association of Accountants (NAA) outline these purposes as follows:

1. Determining income subject to Federal Income Tax.
2. Management of a company's finances--particularly funds for replacements, modernization, and expansion.
3. Determining periodic net income and financial condition for reports to management and stockholders.
4. Determining product costs for internal management purposes.
5. Comparing costs of alternatives in selecting and replacing depreciable assets. [41]

Within the context of these requirements, depreciation needs to be defined to clarify its meaning. As a part of generally accepted accounting principles, depreciation is defined as:

The systematic and rational allocation of the historical costs of depreciable assets (tangible assets, other than inventory, with limited lives of more than one year) over their useful lives. [33, p. xi]

¹ The landmark treatise by Eugene Grant and Paul Norton, Depreciation (New York: Ronald Press Co., 1955) still serves as a complete introduction to the subject of depreciation and its treatment in accounting.

For the purpose of contract costing, Defense Acquisition Regulations (formerly known as Armed Services Procurement Regulations, hereafter referred to as DAR(ASPR)) defines depreciation as:

Depreciation is a charge to current operations which distributes the cost of a tangible capital asset, less estimated residual value, over the estimated useful life of the asset in a systematic and logical manner. It does not involve a process of valuation. [5]

Finally, the Internal Revenue Service (IRS) simply defines depreciation as:

.... a means of recovering your investment in property that has a useful life of more than one year and that is used in your trade or business or held for the production of income. [51, p. i]

Embodied in these definitions is the common feature of allocating the cost of an investment in an asset by charging that cost to expense over the life of the asset. This allocation process can be accomplished by a wide variety of methods. These are examined next.

A. COMMON DEPRECIATION METHODS

Generally, there exist two distinct techniques for computing depreciation--as a function of time and as a function of use. [8] The most common methods as a function of time are: (1) straight line, (2) declining-balance, and (3) sum-of-the-years' digits. The common methods as a function of activity or use are: (1) units-of-production and (2) units of service. A combination of time and use methods can be developed if it is possible to estimate the percentage of depreciation attributable to asset life and asset use, respectively.



1. Straight Line Method

The straight line method is by far the easiest to understand and apply in practice. To compute the annual depreciation expense, the asset cost, less any prospective salvage value, is divided by the expected asset life. The depreciation expense is an equal annual amount for each year of asset life.

2. Declining-Balance Method

Declining-balance methods provide larger write-offs in the early years of the asset's life. They are also known as accelerated or fast write-off depreciation. Commonly referred to applications are the double declining-balance and 150% declining-balance methods. Depreciation expense is calculated by applying a constant percentage to the declining undepreciated balance. The constant percentage used in these declining-balance methods is found by determining what the straight line rate would be and then factoring it by 200% for double declining-balance or 150% for 150% declining-balance. At some point in the asset's life a shift to the straight line method is usually desirable, since the resultant depreciation is likely to be greater than that calculated under the declining-balance method.

3. Sum-of-the-Years' Digits

The sum-of-the-years' digits method is similar to the declining-balance method in that it provides a means to rapidly depreciate assets during their early years. Depreciation expense is computed by first summing the digits 1

through n , where n is equal to the asset's life in years. With this sum as the denominator, the depreciation rate to apply to the asset's cost less salvage value is a fraction with n as the numerator for the first year, $n-1$ for the second year, $n-2$ for the third year, and so on. As a general decision rule for accelerated depreciation, assets with short lives and/or significant salvage value suggest the use of a declining-balance method, while assets with long lives and/or little salvage value indicate use of the sum-of-the-years' digits method. [26]

4. Activity or Use Methods

If the life of an asset is more dependent on its activity or use than on the passage of time, the appropriate means of depreciating the asset may be the number of items produced by the asset or the number of hours of asset service. The units-of-production method would be applicable if the activity (production) is a direct measure of the exhaustion of the assets' serviceability. Depreciation expense would be computed by determining the estimated output associated with the asset and dividing it into the asset's cost less salvage value. This would yield a depreciation rate per unit of output. Similar rates based on asset usage might be calculated by using the estimated productive hours in the life of a machine or the estimated mileage in the life of a vehicle.

B. FEDERAL INCOME TAXATION

Income tax legislation has played an important role in depreciation accounting and capital investment decisions. The Revenue Act of 1913, which was passed shortly after ratification of the Sixteenth Amendment, permitted "a reasonable allowance for depreciation by use, wear and tear of property, if any." [27, p. 209] In subsequent years, income tax legislation underwent a variety of changes to meet the requirements of economic, social and national policy considerations. Prior to 1954, most companies used the straight line method of depreciation for both financial and income tax reporting. [41, p. 5] With passage of the Internal Revenue Code of 1954, which allowed the use of declining-balance methods in computing the tax liability, many companies adopted these methods for their financial reporting as well as tax reporting. Recent research by the American Institute of Certified Public Accountants (AICPA) shows that many of these companies have shifted back to the straight line method for income tax reporting. [33, p. 113] Many accountants would support this shift by noting that the depreciation method used for financial accounting should be selected to reflect income for the period and not necessarily to conform to the tax law or to gain tax advantages.

C. FUNDS FLOW IMPLICATIONS

Business entities view depreciation from several perspectives. These include depreciation for financial accounting, as an element of production cost, and for income tax purposes.

In evaluating the different depreciation methods available, the businessman has to be mindful of the cash flow implications that might exist.

The financial accounting treatment of depreciation has no direct impact on the funds flow of the corporation. Depreciation is an accounting entry only and as such does not create any funds. Its identification as a "source of funds" in the statement of changes in financial position represents a non-cash adjustment to net income. This adjustment serves to reconcile net income with funds provided by operations. While depreciation is a proper deduction in the computation of net income, it does not involve any outflow of funds from the firm.

Depreciation expense has a direct relationship to funds flow where it is a part of determining product cost through application of overhead rates or indirect charges and where the selling price is then based on that cost. As a part of Department of Defense (DoD) contracting, DAR(ASPR) recognizes depreciation as an allowable cost:

(c) Normal depreciation on a plant, equipment and other capital facilities is an allowable element of contract cost provided the contractor is able to demonstrate that such costs are reasonable and allocable to the contract. [5]

The allowability of depreciation, particularly in view of the use of cost-plus contracts and the various methods of computing depreciation, has been a source of controversy and is the focal point of this study. For now, the reader need only recognize that depreciation expense for contract costing does influence funds flow.

The significance of depreciation expense for cash flow, with respect to income taxation, is generally referred to as the tax shield. Since present tax law allows depreciation expense as a deduction from income subject to taxation, it impacts on the outflow of cash necessary to satisfy the tax requirement. The amount of the tax shield is equal to the depreciation multiplied by the applicable tax rate. In other words, the depreciation expense permits retaining more funds after taxes than would otherwise be possible. As an allowable deduction for income taxes, depreciation also is an important public policy consideration. The recovery of corporate investment in capital assets through depreciation charges is encouraged, since the "going concern" business will ideally reinvest this allowance and sustain economic growth. Through public policy incentives of allowing accelerated depreciation charges, this investment is recovered more rapidly than from straight line methods. This rapid recovery enhances the present value of total funds flow. Simply stated, dollars that can be recovered and reinvested today have greater present value than equal dollars recovered in later periods. The issue of depreciation accounting for income tax purposes continues today to be a dynamic subject for policy makers. [34]

D. SUMMARY

The discussion and illustrations above point out the essential character of depreciation and its varied accounting treatments. In the following chapter, depreciation as

a part of DoD contract cost will be examined. That chapter will focus on the events that ultimately led to a Cost Accounting Standard on depreciation.

III. COST ACCOUNTING STANDARD NO. 409

A. NEED FOR A STANDARD

1. Background

During the 1960's the escalating costs of the Vietnam conflict brought a sharper focus to bear on the overall defense budget. Prior to this, minor attempts had been made by the Government to limit and control defense contractor costs and profits. The Government sought to establish cost accounting regulations as early as 1934, when the Vinson-Trammel Act was passed to limit profits on aircraft and naval vessel contracts. Later, during World War II, the Treasury Department issued Decision 5000 which addressed costs concerning the subsidizing of ships. [31] These were eventually replaced by passage of the Armed Services Procurement Act of 1947 and the Federal Property and Administration Services Act of 1949. The implementing directives of these two Acts constitute what is currently known as the Defense Acquisition Regulations (DAR) and Federal Procurement Regulations (FPR) respectively. [20] During the Korean War, the Defense Production Act of 1950 was passed; it granted the President authority to exercise economic controls related to defense production. [24] After conclusion of the war, the Act was modified and continued by biennial Congressional extensions. [29]

In 1968 Congress was involved with several issues concerning defense contracts. These issues included: (a) the high percentage of negotiated contracts, (b) substantial cost overruns, (c) concern over the flexibility of accounting methods, (d) the importance of cost as reflected in establishing price based on historical cost and projected cost, (e) difficulty in safeguarding against excess profits, (f) a lack of uniform accounting principles, and (g) a realization that contractors had great latitude in handling most costs. Several regulations and agencies already existed that, in their own ways, touched on these issues. Generally accepted accounting principles (GAAP) were primarily concerned with financial reporting and inter-year cost allocation vice intra-year cost allocation. These principles allowed considerable flexibility and were silent on procurement questions. The Internal Revenue Service (IRS) concentrated on tax matters related to revenues and the deductibility of costs. The Securities and Exchange Commission's (SEC) focus was on the financial condition of the corporation as a whole rather than cost or profit centers. Furthermore, reliance on GAAP was used to certify the financial reports submitted to the SEC. The Renegotiation Board investigated excessive profits on an overall annual basis rather than on individual contracts. Their attention was primarily on income, not the underlying costs. DAR(ASPR) and FPR provided only general guidance on cost accounting, with major references to GAAP or IRS regulations. [20]

With these apparent weaknesses in existing regulations, the House and Senate Banking and Currency Committees set out to review the problem. In open testimony, Admiral Rickover emerged as a key figure in charting a future course. A key issue was Section 707 of Title VII of the Defense Production Act which reads:

No person shall discriminate against orders or contracts to which priorities are assigned or for which materials or facilities are allocated under any rule, regulations, or order issued thereunder, by charging higher prices or by imposing different terms and conditions for such orders or contracts than for other generally comparable orders or contracts, or in any other manner. [52]

Admiral Rickover argued convincingly that determining whether discrimination existed or not was an unenforceable rule due to the absence of uniform accounting standards. After several attempts, the Congress amended the Defense Production Act and required the General Accounting Office (GAO) to study the feasibility of prescribing uniform cost accounting standards. [21] The GAO feasibility study concluded that uniform cost accounting standards were both feasible and desirable. [10] Shortly thereafter, legislation was passed creating the Cost Accounting Standards Board (CASB).

2. GAO Study

The subject of depreciation was identified as a major problem area in the GAO feasibility study. To illustrate the diversity of depreciation treatment used by defense contractors, the following case example appears in the study report:

One major defense contractor used three different methods of depreciating facilities depending upon whether the data were being reported for corporate purposes, tax

purposes, or contract costing. In the case of one building, the method employed for corporate purposes was "sum-of-the-years-digits" over a 35-year life. The same 35-year life was used for tax purposes, except that 60% was written off over five years and 40 percent over the remaining 30 years. Only a 12-1/2 year life was used for contract costing, 80 percent in the first five years and 20 percent on a straight line basis over 12-1/2 years. [10, p. 98]

A significant advantage of the GAO feasibility study, in addition to calling attention to contract costing problems, was that it provided valuable data for subsequent use by the CASB. Central to this data collection was a questionnaire which was distributed to a large number of defense and non-defense industrial companies. Two questions with respect to depreciation were asked in the GAO questionnaire--one of corporate methodology and the other soliciting comments on a proposed cost accounting standard.

a. Depreciation Method

The question regarding selection of a depreciation method was deemed important, since it was acknowledged that the alternative methods available may have a significant impact on product cost. As was noted earlier, differences between straight line and declining-balance depreciation methods impact on the rate of cost recovery. The question read:

- a. A number of methods of calculating depreciation are included in generally accepted accounting practice. Do you have criteria for determining which specific method of calculating depreciation should be applied in any given situation in determining the cost of contracts, products or services?

Yes _____ No _____

- b. If answer is "Yes," state such criteria as specifically as possible. [10, pp. 204-205]

Overall, 70% responded by acknowledging that criteria did exist for determining the depreciation method to apply. In summarizing the narrative responses, the following observations were made:

- (1) Many companies took the maximum depreciation allowance permitted by IRS guidelines by the use of an accelerated method.
- (2) Another large segment used straight line depreciation.
- (3) Obsolescence and increased maintenance cost was considered a valid reason for the use of accelerated depreciation.
- (4) Problems existed in recovering the costs of special assets used for a given contract.
- (5) Factors other than cost analysis influenced the selection of depreciation methods.
- (6) Companies were not hesitant about setting criteria, though they differed from company to company. [10, pp. 205-206]

b. Proposed Standard

Apart from surveying contractor practice, the questionnaire attempted to obtain reaction to various proposed standards to determine their feasibility and desirability. The respondents were asked to assess whether the proposition was "too restrictive," "about right," or "too flexible" in its treatment of the subject. The proposed depreciation standard read:

The amount of depreciation charged to a cost center or cost objective ought to reflect the cost of asset service consumed. The method selected for computing depreciation should be that method which most closely approximates the actual consumption of asset service rather than one preferred for its tax or for financial reporting considerations. [10, p. 227]

Reaction was somewhat mixed, depending on whether the respondent had experience with Government contracts or not. The majority having experience indicated the standard was "too restrictive" while a minority without experience gave the same answer. "About right" was the response from a minority of the experienced contractors and from a majority of firms without contract experience. The study noted with interest the difference in response between contractors with and without Government contract experience.

As a related issue regarding cost accounting treatment of depreciation and the need for a standard, the study also evaluated DAR(ASPR) Section XV. Respondents were asked to assess various paragraphs of the Section and give their opinion as to the extent to which each paragraph expresses satisfactory cost accounting. Paragraph 205.9 on depreciation was viewed by 57.7% of the respondents as needing "no revision" and by 18.2% as needing "minor revision." "Major revision" and "inappropriateness as a standard" were chosen by only 17.6%. The newly created CASB lost no time in putting these data to use and soon began serious work on developing a Cost Accounting Standard (CAS) devoted to depreciation.

B. EXPOSURE DRAFTS OF A STANDARD

The process leading to the promulgation of a Cost Accounting Standard is complex and encompasses a wide variety of actions. This section will provide a rough outline of the

actions taken by the CASB in setting standards with particular emphasis on the earlier efforts associated with Cost Accounting Standard #409 (hereafter referred to as CAS #409 or Standard).

1. Background

Generally, the development of a CAS is a methodical, interactive process. The professional staff of the CASB proposes areas of research intended to discover whether a CAS is desirable and feasible. Upon approval by the Board, the staff commences research, including library study of books, theses, procurement regulations, industry pronouncements, court decisions, various Government files and disclosure statements. Discussions and visits with contractor and industry representatives identify issues involved. Questionnaires might be used to solicit responses and expressions of views from a broader constituency. The CASB staff accumulates and tabulates the various inputs to evaluate alternatives and recommendations. The staff at this point may recommend dropping the topic from the research process. If the project has merit, the staff will begin a rough draft of the proposed CAS. This is then sent to various individuals and organizations for comment. These comments are solicited to examine the CAS's feasibility, assess its financial impact, and estimate its likely benefit. After comment, the staff prepares a proposed CAS and submits it to the Board for review and approval. Approval causes the proposed CAS to be printed in the Federal Register. This is an integral part

of the research process and serves as public solicitation by the Board to submit comments on the proposed CAS. Responses are summarized and changes to the proposed CAS are made and justified. In addition, each Board member reviews all correspondence related to this solicitation when considering a final decision to approve a new CAS. The Board ultimately may (1) send the CAS back to the staff for further research, (2) instruct the staff to revise the CAS and then promulgate it, or (3) promulgate the CAS as it exists. Final action is to promulgate the CAS officially in the Federal Register. Unless overruled by Congress within 60 days, the CAS has the full force of law within 110 days of publication.

[36]

2. Initial Draft

The early effort undertaken by the CASB to address a Standard on depreciation closely paralleled the process outlined above.² On the heels of the GAO study and creation of the CASB, staff work commenced in May 1971 to review depreciation. As part of the background effort, reviews were conducted of Government procurement regulations dealing with depreciation, data obtained from various accounting associations including the AICPA and NAA, and information from the Treasury Department and Internal Revenue Service. To augment these data, depreciation information as a part of negotiated

² Chairman of the Cost Accounting Standards Board, Mr. Elmer B. Staats, provides an excellent summary of the events leading to promulgation of CAS #409 in "The History of Standard No. 409," Management Accounting (October 1973), pp. 21-26.

defense contracts and defense contractor Disclosure Statements on file with the Board were analyzed. This preliminary work led to the distribution of an issues paper dealing with depreciation in December 1971.

This early "Preliminary Statement of Depreciation Issues" set a tone that suggested changes to depreciation treatment as a part of negotiated contracts. The second paragraph read:

Since current practices were not developed for use in pricing defense contracts or costing work performed for the Government, the practices may or may not produce equitable pricing of work performed for the Government on defense contracts. We believe, therefore, that there may be a question as to whether current practices are reasonable or whether other approaches to depreciation accounting might produce more equitable costing or pricing data. [16]

Responses to this issues paper called attention to several broad issues that would dominate the Standard's future. The Machinery and Allied Products Institute (MAPI) summarized these in their response to the Board. They were:

- a. Depreciation policy with respect to allowability would consider only contract costing and pricing.
- b. Normal accounting records maintained by contractors would be replaced or augmented by new recordkeeping requirements for depreciation.
- c. A standard on depreciation might be counter to public policy incentives aimed at encouraging contractors to modernize their facilities.
- d. A standard on depreciation should also be consistent with the stated goal of encouraging contractors to own their facilities.
- e. Defense profit policy and return on investment considerations should be consistent with depreciation policy. [40]

As a result of the responses to the preliminary issues paper, the CASB prepared and distributed a questionnaire in April 1972. During this same period the staff met and held discussions with contractors at their plant locations and performed a detailed study of depreciation costs of 107 contractor profit centers. The Board and staff held meetings with DoD, professional accounting and industry associations to discuss the issues involved. Finally, during March 1973 a preliminary staff draft of a proposed depreciation Standard was sent to 270 contractors and other interested parties. Important features of this proposal were:

a. The unit-of-production method for depreciation best reflected the expiration of service potential. Where the method could not be applied reasonably, the straight line method would be used unless different methods could be justified by "persuasive evidence."

b. The useful life or service life over which depreciation would be computed would be supported by studies, production records or other empirical data. If not available, the longer of industry averages, as listed in IRS regulations, or lives used in computing depreciation for financial reporting would be used. [15]

Many respondents noted the conspicuous absence of reference to the use of accelerated depreciation methods unless "persuasive evidence" existed. In addition, the proposed treatment of depreciation was viewed as contrary

to public policy as expressed in Federal income tax legislation. Finally, modernization and investment could conceivably be affected by depreciation decisions.

The above preliminary actions over about a four-year period led to the final steps in promulgating a depreciation Standard.

3. First Exposure Draft

On 11 June 1974 the CASB issued the first of two drafts on a proposed Cost Accounting Standard, Depreciation of Tangible Capital Assets. The text of this draft is contained in Appendix A.

a. Major Features

In introducing the proposed Standard, the Board noted:

Income tax regulations have established bases for selection of depreciation lives and methods of depreciation for assigning depreciation cost of accounting periods. Our research has indicated that contractors often select depreciation lives and methods for contract costing purposes based on what is permitted by these regulations rather than on bases which are representative of the consumption of the service potential of the tangible capital asset. In these circumstances many choices have resulted in unduly accelerating allocation of depreciation cost to earlier cost accounting periods and to final cost objectives within those earlier cost accounting periods. [11, p. 20505]

Addressing this problem, as viewed by the Board, was the stated purpose of the proposed Standard:

The standard is based on the concept that depreciation costs identified with cost accounting periods and benefiting cost objectives within periods should be a reasonable measure of the expiration of service potential of the tangible assets subject to depreciation. [11, p. 20506]

The proposed Standard's primary features are summarized below:

(1) Depreciable cost of assets will be assigned to cost accounting periods in accordance with the following criteria: (a) depreciable cost is capitalized cost less residual value; (b) estimated service life will be used to determine the cost accounting periods to which depreciation is assignable; (c) the depreciation method shall reflect the expected consumption of the service in each cost accounting period; and (d) gain or loss on disposition of the asset will be reflected in the period in which it occurs.

(2) Annual depreciation cost is allocated in accordance with the following criteria: (a) directly charged if based on usage and similar treatment is accorded like assets; (b) charged as an organizational cost if the asset is part of an organizational unit that assigns its cost based on services rendered; (c) charged to an indirect cost pool if not covered under (a) or (b) above; and (d) gain or loss is allocated in the same manner as the allocated depreciation cost of the asset.

(3) Service lives shall be the estimates used for financial accounting purposes unless the lives are unrealistic, in which case more realistic estimated service lives need to be developed. The lives used shall not be less than asset guideline lives established by IRS regulations, except where (a) the contractor can demonstrate shorter lives supported by records of past retirement or

replacement or (b) contracting parties have agreed in advance to shorter lives based on special circumstances.

(4) The method of depreciation used for contract costing should approximate the expected consumption of the asset's services in each period. The financial accounting method is acceptable if it reflects the consumption pattern and is also acceptable for Federal income tax purposes.

(5) Consumption of asset services should reflect the expected activity or physical output of the asset. Accelerated methods are appropriate if consumption is greater in early years. Straight line is appropriate if a level consumption is expected over the asset's life. A decelerated method may be appropriate under special conditions.

(6) Original complements of low-cost equipment shall be depreciated to half their cost over half the average service life of the original group of items. Further depreciation would occur only after determining when the complement would be disposed of or when the operational unit for which the complement was acquired would cease operation. Depreciable cost would be written off over the remaining life as determined.

(7) Residual value shall be determined for all capital assets. If residual value exceeds 10% of cost, it would be deducted to determine the depreciable cost except where a declining-balance method is used. No depreciation cost would be charged when remaining book value fell below the stated residual value.

b. Summary of Responses

Like the Board's preliminary efforts to deal with a CAS on depreciation, the response to the first exposure draft in the Federal Register was significant and representative of cross-sections of industry, the accounting profession and Federal agencies. A review of the responses reflects a generally critical evaluation, ranging from questioning a need for a Standard to recommendations for a number of substantive changes.³

Many respondents noted an improvement in the provisions concerning depreciation methods. Early versions had favored the straight line method, while the proposed standard included provisions for accelerated depreciation. However, many voiced concern over the recordkeeping necessary to support its use and disputes that might arise if the interpretations by contracting officers and auditors differed from that of the contractor.

As a related issue, many respondents took exception to the Board's prefatory statement that contractors often selected depreciation lives and methods for contracting based on what is permitted for income tax purposes rather than those representative of the consumption pattern of

³ As noted in the published draft of the Standard, responses thereto are made available for public inspection. CASB kindly consented to provide the author copies of the responses to both the first and second exposure drafts appearing in the Federal Register. A summary of key points and attributed responses can be found in (a) Federal Contract Reports, No. 545 (26 August 1974), pp. A-5 - A-7, and (b) Cost Accounting Standard Guide (Commerce Clearing House, Inc., 1974), pp. 8605-8618.

the asset. Industry saw this as a short-sighted position that disregarded various economic considerations, including the declining value of the asset, inflationary pressures, increasing maintenance and replacement costs, changing market requirements and uncertainty associated with sustained Government contracts. In effect, these criticisms argued that the CASB was ignoring the impact of obsolescence in the life of the asset. In a broader context, the need for modernization and staying abreast of technological advances was seen as endorsed by Federal income tax policy that recognized accelerated methods of depreciation. Several respondents saw a conflict between these established goals and policies and the proposed Standard.

The treatment of service lives was another contested issue in the Standard. Many respondents voiced objections over the determination and use of "expected actual periods of usefulness" as restrictive and unrealistic to implement. Many references were made to past IRS experience in handling this same issue. The IRS ultimately developed the "asset guideline lives" based on industry experience because of controversies and disputes with taxpayers over their individual service life determinations. It was recognized that reliance on individual past experience in establishing service lives was not a good predictor of the future. Contractors were quick to note that the burden of proof in setting service lives would fall exclusively on them. The use of lives shorter than prescribed

by the guidelines could be expected to be disputed by auditors. On the other hand, if the auditors believed the lives were longer than the contractor selected, though longer than the guidelines, the contractor would still have to support their use. Contractors noted that, despite the apparent accuracy of records of past use and retirement, the establishment of service lives for newly acquired assets was at best an estimate or guess subject to a great deal of uncertainty. The costly and time consuming process of data analysis and recordkeeping needed to support justification for service lives selected was seen as an unnecessary burden. Several respondents questioned whether adequate records presently existed to perform such analyses. In weighing the above arguments, most respondents recommended the Standard be modified to allow the use of IRS guideline lives for contract costing, without further justification and record-keeping.

Many comments and recommendations were made regarding the treatment of residual values. The determination of residual values for all acquired tangible assets was noted as even more inaccurate than determining asset lives. Recommendations to eliminate the provision for deducting residual value from acquisition cost were based on these inaccuracies. Others recommended more explicit guidance and proposed that the use of 10% or greater residual values should be acceptable without supporting justification. By far the majority of contractor respondents recommended

dropping the section on residual value because of the insignificant or minimal value that would exist in the uncertain future.

The treatment of gains and losses on disposition of tangible assets caused further discontent among contractors. First, contractors saw the possibility of the Government participating in gains on the disposal of property that the contractor had invested in. This would occur if the "amount realized" exceeded not only the undepreciated book value but also the historical cost. This might be caused by asset appreciation for a variety of reasons. To counter this "windfall" gain, contractors recommended that the gain subject to contract adjustment should not exceed the original cost less the undepreciated balance. Others were concerned that this "gain" resulted from inflationary pressure and that a price deflator adjustment should be used in determining any gain or loss.

Finally, the provision regarding the original complement of low-cost equipment received critical attention from most of the contractor respondents. Many saw the requirement as arbitrary and illogical. It was pointed out that adequate treatment of low-cost capital items was already the subject of a Cost Accounting Standard, CAS #404, "Capitalization of Tangible Capital Assets." Others noted that an apparent inconsistency existed concerning asset usefulness and corresponding consumption through depreciation. Lastly, contractors voiced concern over the administrative controls

necessary to account for these complements as required by this unique treatment.

In line with contractor responses to the proposed Standard, the major Government procuring agency, the Department of Defense (DoD), reiterated many of the same objections to the Standard. A prime concern of DoD was the recurring requirement for contractor accumulation of documentation and the Government's review to support service lives and depreciation methods. It was stated that this effort would increase costs and lead to potential unequal treatment of contractors. Regarding depreciation methods, DoD was even more explicit in stating, "We are opposed to any requirement that would make it more difficult for contractors to avail themselves of accelerated depreciation." The rationale provided was the impact of accelerated depreciation on the cash flows of contractors and its relation to DoD's goal of encouraging contractors to reinvest and modernize their facilities. In addition to increasing costs associated with older facilities and diseconomies related thereto, DoD was concerned about the prospect of having to furnish facilities to contractors that would now refuse to undertake their own investment. Also, contractors nominally involved in defense work might get out altogether and, thus, reduce the defense industrial base. DoD pointed out that the Internal Revenue Code had advantages in that it simplified the criteria applicable to selecting depreciation methods and the documentation efforts by contractors and Government alike.

Uniform treatment of contractors, minimum recordkeeping and data accumulation, and minimizing the burden on the Government with respect to review highlighted DoD's response. Finally, DoD took exception to the treatment of gains and losses by recommending retention of DAR(ASPR) Section 15-205.32, which excluded gains or losses on disposal of tangible assets from contract cost. This provision reflected DoD policy of encouraging contractors to modernize plant and equipment in the case of gains. Including gains as an adjustment to contract cost in the period occurring would be further disincentive to this goal.

4. Second Exposure Draft

The CASB received more than 100 letters in response to its first exposure draft. These reflected widely divergent views and recommendations. After consideration, the Board revised the proposed Standard and published it again in the Federal Register of 3 October 1974. This second publication of a proposed Standard was unprecedented for the Board. In response to this proposal, the Board received 80 letters.⁴ The text of this draft is contained in Appendix B.

⁴ As footnoted earlier, CASB provided the author with responses to both proposals appearing in the Federal Register. A summary of key points and attributed responses to this second draft can be found in (a) Federal Contracts Reports, No. 550 (7 October 1974), pp. A-1 - A-2, (b) Federal Contract Reports, No. 555 (11 October 1974), pp. A-3 - A-7, (c) Federal Contract Reports, No. 556 (18 October 1974), pp. A-14 - A-16, and (d) Cost Accounting Standards Guide (Commerce Clearing House, Inc., 1974), pp. 8631-2, 8646-50.

a. Major Features

The major change to the revised Standard was introduced in the Board's prefatory comments. It stated:

The proposal published on June 11 relied in part on asset guideline class lives established by the Treasury Department. The Board, after carefully considering all the relevant issues and the advice it has received, has determined that asset service lives for contract costing purposes should be developed on the basis of the contractor's own actual previous experience with comparable assets in similar service. The Board has therefore modified its proposal in order to place the primary reliance on records of the age of assets at the time of disposal or withdrawal from active service. The Board recognizes that such records are not now in existence for all contractors. The basic data from which such analyses can be prepared, however, are generally available. The Board has determined that a reasonable working period should be provided in which contractors can prepare the appropriate analytical records. [12, p. 35678]

In stating this requirement, the new proposal would take into account such factors as costs of repair and maintenance, periods of standby or incidental use and technical or economic obsolescence of the asset or of the product or service the asset produces. Recognizing that many contractors would not already have the records necessary to support this requirement, the Standard established a two-year implementation period for their development. As an interim measure, corporate financial accounting criteria for depreciation, if reasonable, could be used by contractors. The proposed Standard also revised its treatment of original complements of low-cost equipment by permitting full amortization over their estimated service life. The original proposal had drawn many comments regarding the rationale and logic of depreciating these assets over half their life

until their remaining usefulness could be determined. Finally, the Standard reflected a change in the treatment of gains and losses on disposition of assets. As had previously been recommended, the new proposal treated a gain as the difference between the original acquisition cost and the undepreciated book value if the net proceeds exceeded acquisition cost. The remaining portions of the draft were substantially unchanged from the 11 June 1974 publication.

b. Summary of Responses

The responses from contractors focused primarily on the requirement that estimated service lives be supported by contractor records of prior experience. Strong objections were made to removal of the option to use IRS Guidelines as an acceptable minimum in determining service lives. The objections followed one or more of the following lines:

(1) The Treasury Department had attempted to follow similar criteria in referring to past retirement history of assets. This was attempted through the use of the Reserve Ratio Test, which was later determined to be unworkable. As a result, the IRS developed the Asset Depreciation Range (ADR) system. These guidelines represented industry service life averages and were generally acceptable to contractors. It was recommended that contractors desiring to deviate from the guidelines could do so on an exception basis, each justifying its own situation. The majority of contractors would benefit from reduced recordkeeping requirements and uniformity.

(2) The recordkeeping requirements would create additional costs and possible disputes with auditors. The need to create a second or third set of records for cost accounting in addition to those presently maintained for financial accounting and tax reporting was particularly bothersome. Many saw smaller contractors as being effectively pushed out of Government business by the onerous and heavy burden of maintaining these records.

(3) The degree of precision that the Standard attempted to achieve through the use of historical records and retirement actions was seen as not consistent with what many described as, at best, an estimate or guess of future service life. The idea of technological and economic obsolescence, though addressed in the Standard, were cited as examples where past experience was a poor indicator of the future, especially on a contractor-by-contractor basis. The fact that one contractor's experience differed from another's suggested that many variables might shift at random. Here again, support was voiced for the IRS Guidelines that reflected broad experience and uniformity.

(4) The issue of consistency with national policy objectives was also raised. Generally, the CASB, an agency of the Congress, was criticized for proposing a Standard counter to established Government policies of promoting capital recovery and reinvestment in modern facilities. Many respondents voiced concern that a restrictive Standard on depreciation would cause a shrinking of the industrial base

by forcing a withdrawal of commercially oriented contractors and by acting as a disincentive to capital investment.

The DoD position regarding the proposed Standard was, as with the original draft, similar to that expressed by contractors. The requirement for contractors to develop and maintain records to support service lives was seen as imposing substantially increased costs of administration, requiring additional Government personnel to review contractors' negotiating positions, and giving rise to a substantial number of disputes. DoD continued to voice its opinion that the Standard made it difficult for the contractors to use accelerated depreciation methods, which DoD endorsed, and would thereby reduce contractors' cash flow. The cash flow problem, as previously stated, was seen by DoD as not in accordance with the goal of encouraging reinvestment in modern facilities.

C. PROMULGATION OF THE STANDARD

1. Final CASB Hearing

As the CASB began its final deliberations on a depreciation Cost Accounting Standard, one last meeting was scheduled to allow industry representatives to present their views before the board. In his opening remarks, CASB Chairman Elmer Staats highlighted the Board's work over the last 3-1/2 years which led to the development of a proposed depreciation Standard.⁵ In opening the meeting for presentations,

⁵ The meeting of 20 December 1974 consisted of members of the Board and representatives of industry and the accounting profession. The author gratefully acknowledges receipt of a transcript of this meeting from the CASB.

Chairman Staats requested the representatives to express their current concerns which had not previously been communicated.

During this meeting many arguments and concerns that had been previously addressed were raised again. The following is a summary of the important issues voiced by the meeting's participants:

a. The treatment of depreciation as reflected in the proposed Standard is contrary to stated objectives of national policy to provide industry incentives to invest in facility modernization and increase productivity.

b. The administrative features of the proposed Standard require extensive and costly recordkeeping to justify corporate decisions. The data and information required are, for the most part, either not available or not readily accessible nor required for similar financial accounting or income tax purposes.

c. The individual selection of depreciation methods and service lives and their detailed justification is inconsistent with the CASB's stated goal of uniformity. This would lead to disputes between the Government and contractors where little or none had previously existed. Though the intent of the Board may be to minimize administrative burdens imposed by the regulation, the interpretation and implementation by Government procuring agencies and auditors may, in fact, be quite different.

d. Increasing regulation of the defense industry would cause commercially oriented companies to withdraw from defense markets. Further, there would be erosion in the subcontractor ranks as many of the smaller firms dropped out.

e. Contractors, viewing the disincentives to their own investment in tangible assets, would look to the Government to undertake the investment and furnish plant and equipment as part of contract negotiations. This would be contrary to stated policies regarding the Government to reduce its own participation in this area.

f. Present Government regulations, i.e., DAR(ASPR) and IRS, adequately provide for the accounting treatment of depreciation. These have been well understood and applied by both contractors and the Government for many years.

g. The proposed Standard fails to address the areas of price level accounting and interest as a cost of capital. Failure to account for these would erode capital recovery through historical depreciation cost and ultimately leave the contractor worse off.

h. CASB representatives commented on the following:

(1) Consideration was being given to the use of statistical sampling in supporting service life estimates.

(2) The Board was considering whether record-keeping should be required to demonstrate the extent of standby or incidental use.

(3) The proposed Standard is flexible and realistic in that the depreciation method and service life reflect the company's experience and circumstances.

(4) The Board acknowledged the omission of price level problems and interest as a cost of capital as a part of the proposed Standard. It did note that there was continuing work in these areas that would possibly be in effect by the time the depreciation Standard was impacting on contractors.

2. Publication of the Standard

During the next regularly scheduled meeting of the CASB on 22 January 1975, the Board reviewed the proposed Standard, including changes submitted by members of the Board. Put to a vote, the Standard was approved by the Board with one member, Mr. Charles A. Dana, dissenting. The Standard was subsequently published in the Federal Register of 29 January 1975. The text of the CASB prefatory comments on the Standard and the Standard itself are contained in Appendix C.

a. CASB Comment

The Board's comments highlighted the Standard's history and efforts in developing it. In reviewing the comments the following points were made:

(1) Changes in contractor cash flow would be minimal due to the two-year period to develop records to support service life estimates. The cash flow loss would be the difference between depreciation amounts using the old

and new service life estimates. The total impact would not be felt until a "full cycle of asset replacement is completed."

(2) The need for a Cost Accounting Standard on depreciation is outside the realm of policy issues concerning capital investment and recovery. The determination of the adequacy of capital recovery and profits is a policy question for the procuring agencies.

(3) The Board recognized that disputes might arise between contractors and Government agencies regarding service lives and estimating future asset usefulness. The Board encouraged that the agencies develop and provide written guidance to field personnel to minimize these conflicts.

(4) In assessing the costs and benefits associated with the Standard, the Board acknowledged that some contractors would bear additional costs to implement the requirements. These, however, would be more than offset by the better measurement of depreciation cost and management of assets. The Standard, in the Board's view, would enhance both the Government and contractors' responsibilities to account properly for the expenditure of public funds. [13]

b. Main Features

As promulgated, the Standard was essentially unchanged from the second exposure draft that was issued 3 October 1974. Though the effective date of the Standard was set as 1 July 1975, the two-year period to develop

records on past experience to support service life estimates would not fully affect most contractors for at least three years. The Standard further clarified expected asset usefulness as excluding periods that assets are retained in standby or incidental use. However, adequate records would have to be maintained to support these withdrawals from active use. Other refinements included redefining estimated residual value and service life as "current" forecasts so as to recognize the impact of economic and technical obsolescence and similar factors.

c. Dissenting Statement

Prior to CAS #409, the previous eight Standards had been approved unanimously by all of the Board members. The final CASB vote on CAS #409, as was noted earlier, included a dissent by one of the Board members. Mr. Charles A. Dana, the industry representative on the CASB, prepared a sixteen point statement of dissent from the decision to promulgate the Standard.⁶ Mr. Dana noted that an overwhelming majority of business interests, professional accounting and industry associations and the Department of Defense had offered strong criticism of the Standard. In assessing this reaction, Mr. Dana observed this "to be based on very persuasive evidence and argument which serve to corroborate, amplify and fortify" his own experience. While many of the

⁶ The text of Mr. Dana's statement is found in Cost Accounting Standards Guide (Commerce Clearing House, Inc., 1975), pp. 8688-8697.

issues in his statement were a summary of previous comments received by the Board, the following deserve mention:

(1) During the final hearing by the CASB on 20 December 1974, Mr. Dana had referred to differing economic and financial circumstances applicable to individual contractors. His statement expands this idea by the use of examples which illustrate what he saw as inequities. Variations in service life estimates computed in accordance with the Standard might result from the

- (1) adequacy of financing,
- (2) varying levels of capacity,
- (3) management decision to increase subcontracting, and
- (4) levels of Government support with facilities [22, p. 8690]

(2) Mr. Dana expressed disappointment with the Board's failure to provide an immateriality exemption. Citing the CASB's responsibility to consider probable costs of implementation compared to the benefits, the Standard would place a burden on small companies and those commercially oriented in their business. The statement went on to propose recommending guidelines in determining materiality.

(3) Regarding gains resulting from the disposal of real property, Mr. Dana was in strong disagreement. The gain, in his opinion, did not reflect an adjustment of previous depreciation expense, but an increase in land value. In the case of a building, the structure depreciated while the underlying land, which is not subject to depreciation, appreciated. In effect, the increased value of the "location"

would provide the Government cost-free use of the buildings. This constituted a "windfall" to the Government, which had not shared the risk in purchase nor the investment capital.

In rebuttal to Mr. Dana's dissent, the CASB prepared a brief statement which referred to the Board's prefatory comments to the Standard as being an expression of their position regarding Mr. Dana's statement.

D. CONGRESSIONAL HEARINGS

The publication of a CAS in the Federal Register requires one final review before it becomes effective. The legislation establishing the CASB and defining its procedures provides for Congressional review and oversight of CAS promulgations. Concurrent with its publication, the CAS is transmitted to Congress. Unless the Congress, within 60 days of continuous session, passes a concurrent resolution that it does not favor the proposed CAS, the CAS then becomes law after 120 days have elapsed since publication.

In the case of CAS #409, the Standard became final on 25 March 1975 with an effective date of 1 July 1975. However, unlike any previous or subsequent CAS issued to date, the strong expressions of concern made by industry resulted in both the Senate and House of Representatives holding hearings on the Standard. The Senate Subcommittee on Production and Stabilization of the Committee on Banking, Housing and Urban Affairs (hereafter referred to as Senate

Committee) held its hearing on 14 April 1975.⁷ Shortly thereafter, on 1 May 1975, the House of Representatives Subcommittee on Economic Stabilization of the Committee on Banking, Currency and Housing (hereafter referred to as House Committee) held its hearing.⁸ To a large extent, the testimony and material presented at both hearings were similar.

In his opening remarks, Senator Alan Cranston, the Senate Committee Chairman, summarized the purpose of the hearings as follows:

This hearing is being held to determine whether the cost accounting standard imposes such an unreasonable burden on industry that it is inconsistent with national economic policy and sound procurement objectives. [46, p. 1]

In assessing this burden, the following points were of interest:

1. Standard 409 requires that lives of tangible capital assets be based on historical service lives, rather than on the asset depreciation range system set forth by the IRS.

Is this change so significant a departure from current national economic policy and procurement objectives as to warrant modification or repeal of the standard.

⁷ The text of the Senate hearing is available in: U.S. Congress, Senate, Committee on Banking, Housing and Urban Affairs. Cost Accounting Standard No. 409--Depreciation of Tangible Capital Assets. Hearing before the Subcommittee on Production and Stabilization, Senate, 94th Cong., 1st Sess., 14 April 1975.

⁸ The text of the House hearing is available in: U.S. Congress, House, Committee on Banking, Currency and Housing. Cost Accounting Standard No. 409. Hearing before the Subcommittee on Economic Stabilization, House of Representatives, 94th Cong., 1st Sess., 1 May 1975.

2. Does the standard permit industry a fair recovery of capital investment?
3. If the standard remains, should it be modified or supplemented to reflect the actual cost of capital to industry and the cost of inflation?
4. Does the standard reflect the fair share of capital costs which should be borne by the Government in its negotiated contracts with the defense and related industries? [46, pp. 1-2]

In addressing these questions, the two committees heard testimony from industry, Government and various professional associations. Much of the material presented recapped previous issues and concerns that were raised during the Standard's development and promulgation. In addition to these, some new positions and actions were identified.

The Standard's provision for providing a two-year delay to develop records to support service life estimates and the assertion that the impact on industry would not be felt until 1978 were challenged. It was noted that many contractors make their capital investment decisions one to five years in advance of expenditure. As part of this process, contract bids for future years would include overhead rates based on present circumstances. Overhead costs would include charges for depreciation. In view of the Standard's requirements, contractors would have to consider these now, not two or three years later.

DoD remained adamant against the Standard and, during the House Committee hearings, requested that implementation be delayed. Concern again was voiced regarding the disincentive the Standard would place on industry investments

in equipment. Further concern was registered about industry's continued interest in doing business with the Government. In response to these concerns, DoD stated it was undertaking a study to evaluate profitability in defense business, with the goal of revising profit policy.⁹ The delay in implementing the Standard would provide DoD the time necessary to implement the revised profit policy.

Subsequent to the Senate Committee hearing, Senator Cranston sent a letter to CASB Chairman Staats noting his concern regarding disincentives to contractor investment and the need to address inflation and the cost of capital. [48] With respect to the latter, he recommended the Board take prompt action to issue Cost Accounting Standards on these. In responding to the Senator's letter, Chairman Staats stated that Cost Accounting Standards on inflation and cost of capital would be issued before any economic impact could be felt from CAS #409.¹⁰

⁹ This study, which is commonly referred to as Profit '76, led to the issuance of Defense Procurement Circular Number 76-3 of 1 September 1976. This circular set forth changes to DoD profit policy by reflecting to a greater extent the contractor's investment in facilities in determining the profit objective through use of the weighted guidelines. Further treatment of the DoD profit study is contained in: Profit '76 Summary Report, Office of the Assistant Secretary of Defense (Installations and Logistics), 7 December 1976.

¹⁰ The Cost Accounting Standards Board subsequently proposed Standard No. 413, "Adjustment of Historical Depreciation Costs for Inflation," which was later withdrawn, and Standard No. 414, "Cost of Money as an Element of the Cost of Facilities Capital."

E. SUMMARY

The Standard on Depreciation of Tangible Capital Assets was preceded by extensive effort and research, tracing its roots to the early work that led to the creation of the Cost Accounting Standards Board. Various positions were taken by both the defense industry and the Department of Defense in response to proposed drafts of the Standard as well as its final version. The controversy surrounding the treatment of depreciation for negotiated contract costing was the subject of Congressional interest shortly after the Standard was promulgated.

The ensuing years are of interest in order to assess the impact of the Standard on the activities and decisions of the defense industry. In the following chapter, a brief review of subsequent research related to cost accounting for depreciation will be examined. Finally, the issues identified previously will be examined by reference to responses to a survey questionnaire used by the author to gain current information on the impact of the Standard on defense contractors.

IV. SURVEYS TO ASSESS THE STANDARD'S IMPACT

The presentation thus far has focused on the issues and concerns of industry prior to and during the promulgation of the Standard. In assessing the impact of the Standard, questions concerning implementation, cost, and interface with the Government require analysis. The author's interest in these questions resulted in part from a comment made by Mr. Frederick Neuman, Director of the Defense Contract Audit Agency (DCAA), during an Association of Government Accountants' symposium. Mr. Neuman stated:

Some problems raised in the implementation of standards have dissipated somewhat with experience. For example, CAS 409, the standard on depreciation of tangible capital assets establishing requirements to accumulate records to support asset lives used in depreciation computations, drew an emotional negative response from contractors. It appears that compliance is being accomplished without significant difficulty. [42]

A. PRIOR REVIEW AND SURVEY EFFORTS

1. DCAA Depreciation Survey

During the House Committee hearings, CASB Chairman Staats made reference to a DoD survey that had been taken of 92 defense contractors to determine the quality of their fixed asset records. [46, p. 5] The questionnaire (which appears in Appendix D) concentrates on available contractor asset records to determine if service life estimates could be made from them. The results of the study, which appear in Table I, concluded that all 92 companies surveyed had

adequate records to be used as a baseline for estimating future service lives.

TABLE I
RECAP OF QUESTIONNAIRE ON CONTRACTOR
FIXED ASSET RECORDS

Total Responses	<u>92</u>
Number having records showing:	
Acquisition Dates	<u>92</u>
Acquisition Costs	<u>91</u>
Disposition Dates	<u>82</u>
Number having records showing:	
Period of standby or incidental use	<u>4</u>
Record Retention Policies:	
3 or More years after disposition	68
1 - 3 Years after disposition	6
1 - 3 Years after fully depreciated	2
Removed from records when retired or disposed of	<u>16</u>
	<u>92</u>
Availability of Records to Determine Service Lives:	
Adequate	52
Available but require analysis	40
Records unavailable	<u>0</u>
	<u>92</u>

Source: DCAA Survey of Defense Contractor Depreciation Records.

2. AIA and CODSIA Surveys

The Aerospace Industries Association of America (AIA) and the Council of Defense and Space Industry Associations (CODSIA) have been very vocal adversaries of CASB activity and pronouncements. As a part of their efforts to represent the views of their industry constituents, both the AIA and CODSIA undertook surveys of their members to assess the impact of CASB activity and CAS legislation.

The AIA summarized its findings in a letter entitled, "Cost Accounting Standards--Summary of Five Years Experience." This letter was sent to members of the House Committees on Banking, Finance and Urban Affairs; Armed Services; Appropriations; and Government Operations; as well as to the chairmen of comparable Senate committees. Related to CAS #409, AIA noted that a significant majority of the members surveyed disagreed with CASB statements regarding any benefit that would result to the Government. Table II is a summary of the survey results.

The material presented by AIA was a part of a broader survey conducted by CODSIA, of which AIA is a member. CODSIA had performed two industry surveys to assess the economic impact of Cost Accounting Standards. The data related to CAS #409 were developed during CODSIA's second survey. This second survey included responses from 81 defense contractors with total Government sales of \$29 billion as of their last fiscal year, of which a total of \$14 billion were under CAS covered contracts. [23]

TABLE II
BENEFITS OF COST ACCOUNTING STANDARDS

The Board's annual reports to the Congress discuss its promulgated Standards, including a description of what the Board believes will be the benefits of the Standard, principally as to improvements in accountability, visibility and negotiation of costs. The following table summarizes respondents' evaluation of the Board's statements regarding benefits to the Government expected of the Standard on which experience exists:

Percentage of Responses

Standard	Strongly Agree	Agree	Disagree	Strongly Disagree
409 - Depreciation of Tangible Capital Assets	0	5	50	45

Source: Page 2 of Addendum to Reference 2.

As part of the survey, several questions related to CAS #409 were examined. Table III summarizes the responses, including AIA input, to the question whether the Government would derive benefit from the Standard as stated by the CASB.

Table IV summarizes the effect that the Standard imposed on industry's accounting practices. Finally, Table V displays the increase in cost allocated to Government contracts as a result of the Standard.

TABLE III
BENEFITS TO THE GOVERNMENT

The CASB, in prefatory comments to new Standards or in its annual reports to the Congress, states the benefits expected of each Standard. Respondents were asked to express their views of those statements with respect to whether such benefits would be derived by the Government.

CAS 409 - Depreciation of Tangible Capital Assets

Statement	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %	100% Equals
Achieves better accounting for depreciation in the pricing and costing of defense contracts	1	10	42	47	103
Increases uniformity and comparability of depreciation costs where circumstances are similar	-0-	22	43	35	103
Results in improved estimating for contract negotiation	-0-	4	49	47	103

Source: Section D of Reference 23.

TABLE IV
EFFECT ON ACCOUNTING PRACTICE

Effect of CASB Rules, Regulations and Standards on Accounting Practices Reported by Respondents (Number of Cases)

Item	Change Accom- plished	No Change Required	Change Being Considered	Memo Records Required	Total
CAS 409 - Depreciation of Tangible Capital Assets	19	15	67	21	122

Source: Section F of Reference 23.

TABLE V
COST IMPACT

Net Increase (Decrease) in Costs Allocated
to U.S. Government Work (in Dollars)

Item	CASB Inception Through Fiscal Year Ending in 1974	Fiscal Year 1975
CAS 409 - Depreciation of Tangible Assets	\$222,000	\$260,000

Source: Section J of Reference 23.

3. AGA Survey

In early 1977 the Association of Government Accountants (AGA) prepared and distributed a survey to a broad segment of its membership. One purpose of the survey was to determine the views held by a knowledgeable segment of the membership on various aspects of each CAS. The majority of the respondents were employed by DoD, NASA and the Energy Research and Development Administration (now Department of Energy). The bulk of the respondents were either auditors or accountants. The survey focused on the clarity with which each Standard was written, the extent to which it met its objectives and the overall impact on the Government and its contractors. [4] The tabulated responses to these questions are contained in Table VI.

4. CASB Evaluation Conferences

During CASB's brief history, the Board has held two evaluation conferences to provide industry an opportunity to express its views on the Board's activity and promulgated Cost Accounting Standards. During the first Evaluation Conference on 11 June 1975, very little was said regarding CAS #409.¹¹ Honeywell Incorporated noted in its presentation to the Board that CAS #409 "will cause significant changes to our accounting systems and may, in fact, create a change in contract performance cost." [30, p. VII-9]

¹¹ It may be surmised that corporate presentations were undergoing preparation for the Conference at a time when CAS #409 had just been promulgated and was then the subject of Congressional hearings. Furthermore, the effective date of the Standard had been set for 1 July 1975, subsequent to the Conference date.

TABLE VI
AGA SURVEY ON COST ACCOUNTING STANDARDS

Effect on:	Increases %	No Effect %	Decreases %	No. of Cases
Control of costs during contract performance	32	68	--	169
Visibility of cost or pricing data	35	65	--	162
Frequency of Government/contractor disagreements	24	63	13	150
	Easier	No Effect	More Difficult	No. of Cases
Contract negotiation	19	69	12	155
Contract administration	18	65	17	151
Contract audit	27	48	25	174
Contract settlement	19	64	17	151
	Very Clear/ Clear	Marginal Clarity	Unclear/ Very Unclear	No. of Cases
Perceived clarity	62	26	12	246

Source: Tables I-IV of Reference 4.

The second Evaluation Conference, held on 12-13 October 1977, provided participants a broader menu of topics to comment on. At that time, Standards 401 through 414 had been promulgated and several others were in progress. During this Conference the previous CODSIA "Second Industry Survey--Economic Impact of Cost Accounting Standards" and the AGA membership survey were summarized and presented to the Board. In addition, several industry representatives made specific comment on problems associated with implementing CAS #409. These included many of the previous arguments against the Standard as well as data related to implementation costs and disputes with DCAA regarding interpretation of the Standard's requirements. [14]

In recapping the events leading to the present, one final point should be made. During the AGA symposium in April 1977, CASB Chairman Staats was critical of the AIA/CODSIA surveys and noted that the results "will not provide us with useful guidance." [44, p. A-15] In fact, considerable correspondence between the CASB and AIA/CODSIA focused on these surveys, primarily on their preparation and analysis. In a critical analysis, the Board transmitted its rebuttal to several members of Congress. [19] During the same AGA symposium, Mr. Staats, while being critical of the AIA/CODSIA surveys, endorsed the AGA survey and encouraged participation. [44] As previously noted, the AGA survey findings were first presented during the second CASB Evaluation Conference. The Board ultimately made specific reference to

the survey findings during its progress report to Congress for the year ending 30 September 1978. Based on the survey, the CASB concluded that "Cost Accounting Standards appear to have exerted a positive effect on contractor cost accounting practices and the Government/contractor procurement process." [17, p. 9]

Because of the allowed two-year phase-in provision of the Standard, most contractors would not be fully affected until January 1978. All of the previous comment, discussion and survey studies regarding CAS #409 were made prior to this effective date. In the following section and chapter, a current survey of defense contractors will be presented. The survey will attempt to focus on the impact of CAS #409 on the defense industry and be an expression of their current views.

B. RESEARCH METHODOLOGY

1. Questionnaire Design

After a careful review of all background documentation related to CAS #409, with particular attention to the issues raised during the Standard's last exposure draft prior to its promulgation and the subsequent Congressional hearings, a questionnaire to assess the Standard's impact to date was developed. The question format and perspective were designed to reflect the opinion and views of the defense industry. The following survey instruments were reviewed in developing this questionnaire: GAO Feasibility Study, CODSIA Survey and AGA Survey. The questionnaire was titled,

"Questionnaire to Assess the Impact of Cost Accounting Standard #409 on the Defense Industry."

The questionnaire was directed to the controller of each organization selected. The questionnaire format was divided into three broad sections. These were: (1) corporate demographic data, (2) opinion regarding various aspects of CAS #409 as promulgated, and (3) the company's experience in implementing the Standard. A cover letter was attached to provide a brief overview of the research effort, to acknowledge the prospective respondents and their assistance, and to assure that the protection of anonymity would be provided in the data analysis. A stamped return envelope was provided to expedite the questionnaire's return. The covering letter and questionnaire appear in Appendix E.

2. Sample Selection

A total of two hundred defense contractors were sent copies of the questionnaire. Included in the distribution were all contractors that had responded to the first and second exposure drafts of the Standard and/or participated in the Congressional hearings. The remaining sample was selected at random from the current listing of DoD contractors receiving negotiated contract awards of \$10 million or more. [25] Prior to sample selection, all listed educational and research organizations were deleted from consideration. This was done in order to concentrate on corporations involved in defense production and manufacturing.

3. Method of Analysis

Upon receipt, each completed questionnaire was reviewed, responses recorded and coded, missing data were noted, voluntary comments were highlighted, and the data were prepared for computer analysis. Computer analysis was conducted utilizing the Frequencies and Crosstabulations subroutines of the Statistical Package for the Social Sciences (SPCC). [43] The Frequencies subroutine was used to investigate the number of times a specific answer was indicated for each question and for tabulation purposes. Crosstabulations were used to investigate possible relationships between specific questions and individual responses. The computer output was reformatted and the data appear in tables throughout the text.

V. PRESENTATION OF THE SURVEY DATA

A. RETURNED QUESTIONNAIRES

The survey questionnaire was mailed to two hundred defense companies. This number included separate reporting divisions within larger corporate entities. Seventy-three responses were received, for a gross response rate of 36.5%. Twenty-three responses were returned incomplete. Two of the reasons for incomplete responses were as follows: (1) the company was not presently covered by CAS provisions or was only under modified CAS coverage (subject to CAS #401 and 402 only), and (2) company policy prevented information release. Completed questionnaires, with minimal if any missing data, were received from 50 respondents; these form the basis for the data analysis. This is a usable response rate of 25%.

B. RESPONDENT DEMOGRAPHIC DATA

The first group of questions was included to provide background information on the respondent's company.

1. Company Size

Respondents were not asked to identify themselves or their firm's name.

Question 1. Please indicate the approximate amount of total annual sales for your company in millions of dollars.

Question 2. Please indicate total sales to the U.S. Government in millions of dollars.

The respondents reported aggregate annual sales of \$156.4 billion and sales to the U.S. Government of \$16.3 billion. Tables VII and VIII stratify the respondent's data for each of these questions.

TABLE VII
TOTAL ANNUAL SALES

Total Sales (M=millions \$)	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
1-25M	1	2	2
26-50M	6	12	14
51-100M	5	10	24
101-250M	7	14	38
251-500M	7	14	52
501-1000M	3	6	58
Over 1000M	21	42	100

Total	50	100	100

TABLE VIII
U.S. GOVERNMENT SALES

Government Sales (M=millions \$)	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)	Cumulative Frequency (%)
1-25M	5	10.0	10.2	10.2
26-50M	8	16.0	16.3	26.5
51-100M	13	26.0	26.5	53.1
101-250M	7	14.0	14.3	67.3
251-500M	9	18.0	18.4	85.7
501-1000M	2	4.0	4.1	89.8
Over 1000M	5	10.0	10.2	100.0
No Response	1	2.0	Missing	100.0

Total	50	100.0	100.0	100.0

2. Government Sales

Related to the firm size is the percentage of total revenue that is reflected in sales to the Government. The largest number of respondents (45%) reported that 25% or less of their sales were derived from Government business. On the other hand, the next largest segment of respondents reported that their revenues were predominantly derived from sales to the Government. Table IX summarizes the respondents' reported percentage of Government sales to total revenues.

TABLE IX
PERCENTAGE OF GOVERNMENT TO TOTAL SALES

Percentage	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
0-25%	22	44	44.9
26-50%	8	16	16.3
51-75%	6	12	12.2
76-100%	13	26	26.5
No Response	1	2	Missing
Total	50	100	100

As previously noted, not all Government sales are necessarily covered by Cost Accounting Standards. Exemption from coverage or modified coverage under CAS #401 and CAS #402 only is available to contractors under various circumstances.¹² To determine what percentage of Government sales reported in Question 2 were CAS covered, the following question was asked:

Question 3. Please indicate the percentage of sales reported in response 2 that were CAS-covered prime contracts and subcontracts.

¹² Specifics regarding exemption and modified coverage is contained in CASB regulations. Further information is contained in Cost Accounting Standards Guide (Commerce Clearing House, Inc., 1978), pp. 2045-2048.

Seventy-two percent of the respondents reported that CAS-covered contracts made up 70-100% of their total Government sales. On the other hand, only 20% of the respondents indicated that 50% or less of their Government sales were CAS covered. The tabulated responses appear in Table X.

TABLE X
PERCENTAGE OF GOVERNMENT SALES THAT ARE CAS COVERED

Percentage	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
0-10%	4	8	8
11-20%	0	0	8
21-30%	0	0	8
31-40%	4	8	16
41-50%	2	4	20
51-60%	1	2	22
61-70%	3	6	28
71-80%	10	20	48
81-90%	6	12	60
91-100%	20	40	100

Total	50	100	100

3. Depreciation Expense

Question 4. Please indicate what percent of cost of sales to the U.S. Government is depreciation expense.

To place depreciation expense in perspective, respondents were asked to indicate what percentage of cost of sales on Government contracts was reflected as depreciation expense. During the debate on the need for a Standard on depreciation, many comments were made regarding the insignificance of depreciation expense relative to total contract cost. Mr. Dana, in his dissenting statement on the Standard, recommended an exemption to the Standard if depreciation expense was two percent or less of selling price. [22, p. 8688] Over half of the respondents indicated that depreciation expense was 2 percent or less of the cost of sales. Conceivably this percentage would be higher if the question had asked for the percentage relative to selling price. Table XI summarizes the distribution of responses.

TABLE XI
DEPRECIATION EXPENSE AS A PERCENTAGE
OF COST OF GOVERNMENT SALES

Depreciation Percentage	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)	Cumulative Frequency (%)
0-0.5%	4	8	9.1	9.1
0.5-1.0%	6	12	13.6	22.7
1.0-1.5%	4	8	9.1	31.8
1.5-2.0%	10	20	22.7	54.5
2.0-2.5%	7	14	15.9	70.5
2.5-3.0%	5	10	11.4	81.8
3-4%	4	8	9.1	90.9
4-5%	2	4	4.5	95.5
Greater than 5%	2	4	4.5	100.0
No Response	6	12	Missing	100.0

Total	50	100	100.0	100.0

C. RESPONDENT OPINION

This group of questions was designed to yield information on the opinions held by industry respondents on various aspects of CAS #409 as promulgated. In preparing these questions, the author used the same questions that were used by AGA in surveying its membership. The AGA survey purported to be representative of a Government viewpoint with regard to the various aspects of the Standard. In asking the same questions of the defense industry, the perspectives of both

Government personnel and contractors can be evaluated and compared. In examining each of the following questions, the AGA survey response will be indicated for comparison (the AGA survey responses appear in Table VI).

1. Clarity

Question 5. Please indicate the clarity with which CAS #409 communicates its requirement.

The Standard was generally reported as being clear in communicating its requirement(s). Sixty-one percent of the respondents reported that the Standard was very or fairly clear, while only 10 percent reported the Standard as being fairly or very unclear. In comparison, the AGA survey reported similar findings and noted that 62% reported that the Standard was clear, while 12% reported it was unclear. Marginal clarity was also comparable at 28.6% and 26% respectively. Table XII summarizes the responses to the question.

TABLE XII

CLARITY WITH WHICH THE STANDARD COMMUNICATES ITS REQUIREMENT

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)	Cumulative Frequency (%)
Very Clear	3	6	6.1	6.1
Fairly Clear	27	54	55.1	61.2
Marginally Clear	14	28	28.6	89.8
Fairly Unclear	3	6	6.1	95.9
Very Unclear	2	4	4.1	100.0
No Response	1	2	Missing	100.0
Total	50	100	100.0	100.0

2. Control of Cost

Question 6. Please indicate the effect on the control of cost during contract performance provided by CAS #409.

As shown in Table XIII, the overwhelming majority of respondents reported that the Standard would have no effect on controlling contract cost. From a contractor's point of view, depreciation expense can be thought of as an uncontrollable cost once the investment in plant and facilities is made. Any subsequent control would usually be exercised in deciding on the depreciation method and/or service life to use in amortizing the cost. The AGA survey was in general agreement, with only one-third of the respondents noting an increase in control resulting from the Standard.

TABLE XIII
EFFECT ON THE CONTROL OF COST

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
Increased Control	1	2	2.0
No Effect	46	93	93.9
Decreased Control	1	2	2.0
No Opinion	1	2	2.0
No Response	1	2	Missing
Total	50	100	100.0

3. Visibility of Data

Question 7. Please indicate the effect on the visibility of depreciation data provided by CAS #409.

Three-fourths of the respondents reported that the Standard would have no effect on the visibility of depreciation data. As related to the previous question, this response would seem reasonable, since depreciation expense is well-defined once the method is chosen. Another 20% reported an increase in visibility of depreciation data. This might be expected as a result of the Standard's requirement for documentation needed to support depreciation methods and/or service life estimates. Interestingly enough, the AGA survey disclosed comparable responses to this question; 65% reported no effect and 35% reported increased visibility of data. Table XIV summarizes the respondents' answers.

TABLE XIV
VISIBILITY OF DEPRECIATION DATA

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
Increased Visibility	10	20	20.4
No Effect	37	74	75.5
Decreased Visibility	2	4	4.1
No Response	1	2	Missing

Total	50	100	100.0

4. Frequency of Disagreement

Question 8. Please indicate the effect of CAS #409 on the frequency of Contractor/Government disagreements.

Many defense contractors had previously registered concern regarding disputes and disagreements that might arise as a result of interpretations by Government contracting officers and auditors. In answering this question, 65% indicated the opinion that the Standard would increase the frequency of disagreement. One contractor noted in its response that it may be too early to assess the answer to this question since the Standard was technically effective in 1978. The AGA survey presented a different viewpoint. There 63% saw the Standard as having no effect on disagreements, while only 24% reported an increase. Table XV summarizes the responses.

TABLE XV
FREQUENCY OF CONTRACTOR/GOVERNMENT DISAGREEMENT

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
Increased Frequency	31	62	63.3
No Effect	14	28	28.6
Decreased Frequency	1	2	2.0
No Opinion	3	6	6.1
No Response	1	2	Missing

Total	50	100	100.0

5. Contract Negotiation

Question 9. Please indicate the effect CAS #409 has had or is expected to have on contract negotiation.

Table XVI indicates a mixed reaction to the effect of the Standard on contract negotiation. Negotiation, as the preliminary step in the contract process, was seen as being made more difficult by about half of the respondents, while the other half saw the Standard as having no effect. In addition, the larger the company, the more likely contract negotiation was seen as being made more difficult. None of the respondents indicated that the process would be made easier by the Standard. In contrast, the AGA survey reported 69% expecting no effect and 19% seeing negotiation made easier.

TABLE XVI
EFFECT ON CONTRACT NEGOTIATION

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
Made Easier	0	0	0
No Effect	22	44	45.8
Made More Difficult	24	48	50.0
No Opinion	2	4	4.2
No Response	2	4	Missing

Total	50	100	100.0

6. Contract Administration

Question 10. Please indicate the effect CAS #409 has had or is expected to have on contract administration.

With regard to the second element of the contracting process, the respondents were evenly split on their opinions on the effect of the Standard on contract administration. Forty-eight percent reported that the Standard had no effect, while another 48% indicated it would make administration more difficult. The AGA survey reported 65% seeing little or no effect and the remaining equally divided between making administration easier or making it more difficult. No contractor, as in the previous question, reported the process being made easier. Table XVII summarizes these responses.

TABLE XVII
EFFECT ON CONTRACT ADMINISTRATION

Response	Absolute Frequency	Relative Frequency (%)
Made Easier	0	0
No Effect	24	48
Made More Difficult	24	48
No Opinion	2	4

Total	50	100.0

7. Contract Auditing

Question 11. Please indicate the effect CAS #409 has had or is expected to have on auditing.

A majority (74%) of contractors indicated that contract auditing would be made more difficult by the Standard. One respondent indicated that the process would be made easier. Here again, the larger companies predominantly saw the process as being made more difficult. In the AGA survey, about half reported no effect on auditing; while the remaining were split between making the process easier or making it more difficult. Table XVIII summarizes the respondents' answers.

TABLE XVIII
EFFECT ON CONTRACT AUDITING

Response	Absolute Frequency	Relative Frequency (%)
Made Easier	1	2.0
No Effect	11	22.0
Made More Difficult	37	74.0
No Opinion	1	2.0

Total	50	100.0

8. Contract Settlement

Question 12. Please indicate the effect CAS #409 has had or is expected to have on contract settlement.

Generally, contractors were of the opinion that the Standard would make the last part of the contract process more difficult. Fifty-eight percent reported that contract settlement would be made more difficult. In contrast, 64% of the respondents in the AGA survey indicated that the Standard would have no effect, while only 17% reported the process as becoming more difficult. Table XIX summarizes the responses to this question.

TABLE XIX
EFFECT ON CONTRACT SETTLEMENT

Response	Absolute Frequency	Relative Frequency (%)
Made Easier	1	2
No Effect	18	36
Made More Difficult	29	58
No Opinion	2	4

Total	50	100

In summary, it is of interest to note the negative reaction of contractors to the Standard's impact on the contracting process. Regarding the contract process, including contract negotiation, administration, auditing and settlement, contractors generally saw the process as being made more difficult. This is in sharp contrast to the responses made by representatives reflecting a Government viewpoint.

D. RESPONDENT EXPERIENCE

This group of questions focuses on industry's experience in implementing CAS #409. The questions were designed to address several of the issues and concerns expressed by industry during the Standard's development and promulgation. Where applicable, amplifying comments made by the respondents will be incorporated in the text. By prior agreement and as stated in the questionnaire cover letter, all comments are anonymous.

1. Depreciation Method

Question 13. Please indicate the method(s) of depreciation commonly used by your company for (a) defense contract costing, (b) financial accounting and (c) income tax reporting before and after implementation of CAS #409. Where more than one method of depreciation is used, rank in order of significance (for example, 1,2,3).

Question 14. If your answer to the previous question indicated a change in depreciation method, what was the approximate implementation cost?

Much of the controversy surrounding the Standard related to the method of depreciation that was appropriate for contract costing. Many contractors felt that there was a presumption (at least during the Standard's development) by the CASB that favored the straight line method. The Standard, however, in its final form, liberalized its statement on acceptability of methods available to contractors. The Standard provides that the method used for financial accounting purposes would also be used for contract costing

unless that method did not reflect the consumption pattern of the asset's services or was unacceptable for income tax purposes. This provision was still bothersome to some contractors who voiced concern over the need to change accounting practices (primarily financial) to comply with the Standard.

Table XX summarizes the respondents' primary depreciation methods that were used prior to CAS #409 and those now used. Respondents reporting more than one method were asked to rank these in order of significance. An analysis of the rankings shows that the relative distribution between straight line, declining-balance and sum-of-the-years' digits conforms to the distribution of the primary methods reported in Table XX. As can be seen in the table, contractors reported virtually no change in depreciation method prior to and after implementing CAS #409.

Only three respondents indicated a change in depreciation method as a result of implementing CAS #409. Two of these reported "nil" or "insignificant" cost in implementing the change, while the third contractor reported that the change cost \$25,000. One contractor commented,

Incidentally, DCASR has approved (contractor's) use of "Sum-of-the-years-Digits" as our depreciation method, so we have not had to change to "Straight Line." That approval lessens the impact of CAS #409....

TABLE XX
DEPRECIATION METHODS PRIOR TO AND AFTER CAS #409

Depreciation Method	Contract Costing		Financial Accounting		Tax Reporting	
	Before	After	Before	After	Before	After
Straight line	23	23	27	27	9	9
Declining-balance	14	13	13	12	25	24
Sum-of-the-digits	9	9	7	7	11	11
Machine hours	1	1	1	1	0	0
Unit of production	0	0	0	0	0	0
Other	1	1	1	1	4	4
No response	2	3	1	2	1	2
<hr style="border-top: 1px dashed black;"/>						
Total	50	50	50	50	50	50

2. Service Life

Service life determination and the justification necessary to support it was the most contested aspect of the Standard. The following questions focus on the service life issue and assess its impact on contractors.

a. Former Method

Question 15. Prior to CAS #409 what method or procedure was used for determining useful life?

Much of the service-life controversy centered about whether methods used for other purposes, primarily income tax reporting, were acceptable or reasonable representations of service applicable to Government contract costing.

In responding to the question regarding the determination of service life prior to CAS #409, 80% of the respondents had relied in part on IRS asset "guideline lives." Only 20% of the respondents indicated the use of historical experience, which was favored by the Standard, in determining service life. Table XXI summarizes the methods in use prior to CAS #409. Totals are not additive since contractors were asked to identify all methods used if more than one was applicable.

TABLE XXI
FORMER METHOD OF DETERMINING SERVICE LIFE

Response	Absolute Frequency	Relative Frequency (%)	Rank
Historical experience	10	20	4
IRS asset "guideline lives"	40	80	1
Engineering estimate	14	28	3
Estimate of economic life	20	40	2
Other	2	4	5

b. Recordkeeping

Question 16. When CAS #409 was promulgated, did your company have adequate records to calculate historical service lives of depreciable assets?

- a. If not, what data were lacking?
- b. What were the approximate implementation costs of analyzing these records, if they existed, or developing them, if they did not exist?
- c. What are the estimated continuing annual costs of maintaining these records?
- d. Briefly describe the actions taken to develop the necessary recordkeeping to comply with the Standard.

During testimony given in the House Committee hearing on the Standard, CASB Chairman Staats noted that contractors had adequate asset records to determine service life estimates. This conclusion was based in part on the previously mentioned survey conducted by DCAA (see Table I). During the same House Committee hearing, the Financial Executives Institute (FEI) questioned the validity of the survey and its conclusions. The FEI noted:

The DOD personnel who participated in this survey obviously did not understand the records they examined. It is also apparent that most if not all of this data was gathered from field office records rather than contractor records, since we can find no major contractor that was contacted to obtain this specific information.

The fact of the matter is that adequate records do not exist and could only be developed at considerable expense and over an extended period of time. To clarify this point we want the record to show what would be required.

In most companies records to exist do show acquisition date, acquisition cost and disposition date of assets. That is all.

The additional records necessary to support the estimated useful lives selected by a contractor would require the development of new systems and the documentation of decision criteria. [46, p. 259]

Table XXII supports industry's contention that adequate asset records did not exist (in contrast to the data in the DCAA survey). Over 70% of the respondents to the question indicated they did not have adequate records to calculate historical service lives.

TABLE XXII
EXISTENCE OF ADEQUATE SERVICE LIFE RECORDS

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
Yes	14	28	29.2
No	34	68	70.8
No Response	2	4	Missing
Total	50	100	100.0

Of those contractors reporting that they did not have adequate records to support service life estimates, all but five cited the lack of records supporting standby or incidental use of assets. Companies reporting other reasons indicated that records had to be reconstructed into new formats and that records of maintenance, which supported extended

asset life, were not available. Firm size based on total sales had no relation to the existence of records. Table XXIII summarizes the data that were lacking for the respondents that reported not having adequate records. Totals are not additive, since respondents were asked to identify all categories lacking.

TABLE XXIII
SERVICE LIFE DATA LACKING

Response	Absolute Frequency	Relative Frequency (%)	Rank
Acquisition dates	3	8.8	5
Acquisition costs	3	8.8	5
Record of standby or incidental use	29	85.3	1
Disposition dates	8	23.5	3
Historical records not retained to permit statistical sampling	14	41.2	2
Other	6	17.6	4

One of the concerns of this study was whether contractors would be able to provide adequate information on implementing the Standard, since it had been effective for most contractors for only about one and one-half years at the time of this survey. Notwithstanding this difficulty, 29 respondents were able to quantify the implementation cost

of analyzing existing records or developing them where they did not exist. In addition, 23 of these contractors were able to quantify the continuing annual cost of maintaining those records. Respondents reported an average implementing cost of over \$110,000 and annual average costs of over \$44,000. Table XXIV summarizes these costs. While other contractors were unable to quantify their costs, their comments included "minimal," "immaterial," "unknown," and "considerable." Two respondents indicated that two and four people respectively were needed to perform the recordkeeping function. Though the cost data are representative of a small number of firms, it is of interest to compare them to the data presented by CODSIA's "Second Industry Survey--Economic Impact of Cost Accounting Standards." CODSIA reported that for 81 companies the net increase in costs allocated to the Government as a result of CAS #409 was \$486,000 (see Table V). This was reported shortly after the Standard was published and its effective date set. It is reasonable to assume that the costs reported in Table XXIV will likewise be allocated to the Government. These data reflect a significant increase in cost since fiscal year 1975.

TABLE XXIV

IMPLEMENTATION AND ANNUAL MAINTENANCE COSTS OF CAS #409

Cost	Respondents	Average	Range	Total
Implementation	29	\$110,690	\$2,000 - \$1,500,000	\$3,210,000
Annual	23	\$44,674	\$1,500 - \$500,000	\$1,027,500

Respondents noted a variety of actions necessary to comply with the Standard. The most frequent comment indicated a change to computer-based data and software changes necessary to retrieve and analyze them. Equally important was the development of a system or modification of existing recordkeeping to keep track of assets in a standby or incidental use status. Other actions necessary included re-assembly of existing records, location of historical records, reinventory of assets, and the development of supporting maintenance and use records. A few respondents noted that they had not resolved their recordkeeping requirements or were presently negotiating with DCAA to determine what was needed.

c. Modifying Estimates

Question 17. CAS #409 provides for adjusting historical service lives to reflect circumstances expected to influence and shorten future lives. Has your company modified service life estimates under this provision?

a. If yes, what has been the basic criterion?

- b. Has this been generally acceptable to Government contracting officers and auditors?
- c. In your opinion, have Government contracting officers and auditors received adequate written guidance to evaluate contractor service life estimates?

The Standard recognized that certain factors might lead to a modification of the estimated life of an asset if based on historical experience. In broad terms, both physical and economic factors related to obsolescence were acceptable reasons for modifying service life. In answering this question, 75% of the respondents indicated they had not used this provision to modify their service life estimates. The remaining respondents indicated that the most common criterion applied was an expected change in the asset's economic usefulness. Table XXV summarizes the respondents' answers.

TABLE XXV
MODIFIED SERVICE LIFE ESTIMATES

Response	Absolute Frequency	Relative Frequency	Adjusted Frequency	If Yes:		
				Physical	Economic	Other
Yes	12	24	26.7	3	6	3
No	33	66	73.3	--	--	--
No Response	5	10	Missing			
<hr style="border-top: 1px dashed black;"/>						
Total	50	100	100.0			

When applying these factors to modify service life estimates, contractors reported that this had been generally acceptable to contracting officers and auditors. Though a small number of responses were received to the question, the margin of those reporting "acceptable" was two to one over "unacceptable." Three contractors commented forcefully in stating their reasons why modifying service lives were unacceptable to auditors.

DCAA auditors are very unreasonable and effectively preclude use of this provision by, in effect, requiring conclusive proof.

Some auditors do not seem to accept that CAS 409 requires adjustment of historical lives to reflect current thinking on useful life.

Special circumstances difficult to quantify; hence DCAA/DCASPRO have not accepted special circumstances.

The question's location in the questionnaire may have resulted in confusion for the respondent. The total answering this question does not correspond to the number answering the previous question with a "yes" response. The difference is seen as the respondent's expression of opinion rather than experience. Responses are tabulated in Table XXVI.

TABLE XXVI
ACCEPTABLE TO CONTRACTING OFFICERS AND AUDITORS

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
Yes	14	28	70
No	6	12	30
No Response	30	60	Missing
Total	50	100	100

When promulgating the Standard, CASB commented on and encouraged procurement agencies to provide written guidance to field personnel to minimize difficulties in implementing the Standard's provisions. When asked their opinion, over half of the respondents indicated that contracting officers and auditors had not yet received adequate written guidance. Another small segment reported they did not know what guidance had been provided. At the other extreme, one contractor thought too much guidance was provided by noting, "Too much--they are afraid to exercise judgment and be reasonable for fear of being criticized." Table XXVII summarizes the responses to this question. Like the previous question, because of its location in the body of the questionnaire, this question may have been overlooked and left unanswered. Generally, those respondents that answered "no" to the basic question, skipped the remaining parts and went to the next question.

This question did not attempt to identify any specific problems with guidance that existed. It was of interest that 10% of the survey respondents did not know what guidance was available. Notwithstanding field memoranda and position papers on the Standard, other formal guidance is available to contracting officers and auditors. For auditors, an important source is Appendix L, "Audit Guidance --Cost Accounting Standards, Rules and Regulations," of the Defense Contract Audit Manual (DCAM). [49] The section on CAS #409, L-409, and its illustrations are particularly instructive. During 1976, DoD established the CAS Steering

Committee and a CAS Working Group. The Working Group publishes interim guidance for the implementation of Standards. Guidance issued by the Working Group on CAS #409 is W.G. 78-22, "Interim Guidance--CAS 409 and the Development of Asset Service Lives." [22, p. 6386] Finally, DCAA has prepared an extensive training plan for auditors entitled, "Advanced Cost Accounting Standards No. 154." Included herein is a complete lesson plan on CAS #409, with a step-by-step analysis of the Standard's features and a variety of exercises to sharpen the auditor's skills.¹³

TABLE XXVII
ADEQUATE GUIDANCE AVAILABLE

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
Yes	11	22	31.4
No	19	38	54.3
"Unknown"	5	10	14.3
No Response	15	30	Missing
Total	50	100	100.0

¹³ The author gratefully acknowledges the receipt from DCAA of a copy of this lesson plan and instructor aids. The plan includes excellent reference sources and practical exercises and case studies that help clarify the Standard's key provisions.

d. Tailored Estimates

Question 18. CAS #409 requires service lives of assets to be based on individual company experience. In your opinion, is this "tailored" approach more equitable than a fixed schedule of service lives applicable to all contractors (for example, the IRS Guidelines)?

During the Standard's development, CASB shifted its emphasis on the determination of asset service life from reliance on IRS asset "guidelines lives" to individual company historical experience. In responding to this question, 66% of the contractors felt that this treatment was less equitable than a schedule of service lives (for example, the IRS guidelines) applicable to all contractors equally. One contractor thought the Standard was equitable but noted that it "was not administered by DCAA correctly." Other comments were more critical and included the following, "IRS Guidelines were generally adequate. CAS 409 was not needed." Another contractor offered, "It is incredible that the Board would promulgate a Standard which would result in differing lives for possibly identical assets. Use of IRS guideline lives always avoided this result." The responses on this question would appear to be consistent with the contractors' previous use of IRS Guideline lives, as reported in Question #15. Responses to this question are included in Table XXVIII.

TABLE XXVIII

EQUITABILITY OF TAILORING SERVICE LIFE ESTIMATES

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
Yes	16	32	34
No	31	62	66
No Response	3	6	Missing

Total	50	100	100

e. Adjustment for Unique Assets

Question 19. CAS #409 provides that unique assets that are expected to be useful only for a particular contract can have their service lives adjusted to reflect these circumstances. Has your experience to date with contracting agencies or auditors indicated any problems with this provision?

The uncertainty of continuing Government contracts and the acquisition of special facilities and equipment to support these efforts was identified by contractors as having a significant impact on service life estimates. A provision for treating these unique assets when special circumstances exist and when agreed upon by the contracting parties was provided for in the Standard. This provision was further amplified during the AGA Symposium when Deputy Secretary of Defense Dale Babione stated:

In connection with Standard 409, I have just recently issued advice to the contracting officers that the provisions of that standard which deal with the economic life of assets may be applied in those instances where contractors can demonstrate that assets are being acquired in support of specific programs. Thus, where

a program is expected to last for only eight years, assets may be depreciated over an eight-year period even when the normal physical life of the assets would be somewhat longer. [6]

Table XXIX indicates that a large majority of respondents had no difficulty in their experience with this provision. This situation may have resulted in part from the specific guidance given contracting officers and auditors.

TABLE XXIX
ADJUSTING LIFE FOR UNIQUE ASSETS

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
Yes	7	14	17.1
No	34	68	82.9
No Response	9	18	Missing

Total	50	100	100.1

3. Cash Flow and Profitability

Question 20. CASB Chairman Staats stated that the impact on contractor cash flow "would not occur until the full cycle of asset replacement is completed."

- a. Will CAS #409, as implemented, have the effect of reducing your company's cash flow?

- (1) If yes, what was the estimated average annual dollar amount?

- b. For your company, how many years will it require to complete a "full cycle of asset replacement"?

Question 21. CAS #409 was criticized as having a negative impact on profits, capital formation and investment. Have subsequent changes to DoD profit policy (weighted guidelines) and CAS #414 (Cost of Money as an Element of the Cost of Facilities Capital) mitigated the impact of CAS #409 on profitability and cash flow?

As part of the controversy surrounding the Standard, cash flow reduction was a major concern to the defense industry. Critics argued that a Standard that increased the time to recover an investment in capital assets or reduced its rate of recovery, would act as a disincentive to that investment. The CASB, on the other hand, stated that changes in cash flow would be minimal, since it would only be the difference between that computed under the old and new methods. In answering question No. 20, over 70% of the contractors responded that the Standard would have no effect on reducing their cash flow. Included in this category were four contractors that indicated the Standard would have an effect on their cash flow but that it would be "minor" or "insignificant." Their responses were changed to "no" because of the reported minimal effect. Table XXX summarizes these responses.

TABLE XXX
CASH FLOW REDUCTION

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
Yes	13	26	29.5
No	31	62	70.5
No Response	6	12	Missing

Total	50	100	100.0

Nine of the thirteen respondents that indicated a reduction in cash flow were able to quantify the amount of the reduction. The average annual reduction in cash flow was \$3,353,000, but the range was very wide. If the respondent reporting a reduction of \$25 million is removed from the analysis, the average drops to \$846,250 with the range being \$25,000 to \$2 million. The responses are summarized in Table XXXI.

TABLE XXXI
AMOUNT OF CASH FLOW REDUCTION

Number Respondents	Average Reduction	Range	Total
9	\$3,353,000	\$25,000 - \$25,000,000	\$31,770,000

The above data are, at best, crude estimates that reflect, in part, the method of depreciation, service life estimates for a wide variety of assets and their projected future replacement. This problem was highlighted when contractors were asked to estimate their "full cycle of asset replacement." The concept is unwieldy because it includes a number of variables. Each asset or group of assets has differing physical and economic lives. To determine a full cycle of replacement requires lumping a variety of short and long-lived assets together. The difference in lives is readily apparent in examining the "IRS Guideline Classes and Periods" of assets. The question asked of the respondents did not attempt to differentiate between asset types; therefore, a wide spread of responses was received. In view of the problems discussed above, the author attaches no significance to the data. Thirty-three contractors provided answers to this question, with an average of 14 years being reported as the "full cycle of asset replacement."

During the Congressional hearings on the Standard, contractors requested that the Standard be set aside until a CAS on inflation and the cost of capital could be issued. At the same time, DoD requested similar postponement until a review of DoD profit policy could be completed. The Board remained steadfast and noted in its prefatory comments to the Standard that the cost of capital and profit policy were separate issues from depreciation accounting. In late 1976, the CASB promulgated its Standard No. 414 on the cost of

capital; and DoD revised its profit policy subsequent to the Profit '76 Study.

Contractors were asked whether the new DoD profit policy and CAS #414 offset the effect of CAS #409 on their cash flow and probability. Table XXXII reflects the respondents' experience to this question. Two-thirds responded that the profit policy and CAS #414 had not offset the Standard's impact. One contractor stated, "Amounts included for CAS 414 were subtracted from contracting officers' profit objectives, dollar for dollar." Another contractor voiced similar experience by stating, "Weighted guidelines effectively offset any benefits of CAS 414." The identification of the offset relationship between the profit policy and CAS #414 is not new. William Letzkus, in an earlier study on DoD profit policy and CAS #414, concluded that profit depended on the ratio of facilities investment and could conceivably be less than what would have existed under the old profit policy. [35]

TABLE XXXII

HAS DoD PROFIT POLICY AND CAS #414
MITIGATED THE EFFECT OF CAS #409

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
Yes	15	30.0	32.6
No	31	62.0	67.4
No Response	4	8.0	Missing

Total	50	100.0	100.0

4. Impact on Capital Investment

- Question 22. Though the requirements of CAS #409 were phased and asserted not to affect contracts until 1978, did the Standard have any negative impact on your company's capital budget and investment decisions when promulgated?
- Question 23. Has CAS #409 affected the proportion of new investments financed by internal cash flow as opposed to new external financing?
- Question 24. Have you required additional amounts of government owned facilities for contracts or do you intend to do so as a consequence of investment disincentives in CAS #409?

Concern by both defense contractors and DoD regarding cash flow and profitability was part of a larger issue related to capital investment and maintenance of the industrial base. Contractors argued that the Standard was contrary to these stated goals and would serve as a disincentive to future capital investment. DoD similarly pointed out that its policy of promoting contractor investment in their own facilities would be endangered by the Standard. When asked whether the Standard had impacted on the company's capital budget and investment decisions, all but two contractors reported that it had not. The responses are tabulated in Table XXXIII.

TABLE XXXIII

DID THE STANDARD IMPACT ON THE COMPANY'S
CAPITAL INVESTMENT DECISIONS?

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
Yes	2	4	4.3
No	44	88	95.7
No Response	4	8	Missing

Total	50	100	100.0

Related to the capital investment decision is the identification of the financing and its source. Financing can be derived from two sources--either from internal operations or from outside the company (debt or equity). A reduction in internal cash flow would presumably have to be made up from outside sources in order to undertake a given investment plan under a constraint of limited resources. Contractors reported in Table XXXIV that, in all but one case, no change in financing was necessary as a result of CAS #409.

TABLE XXXIV
HAS CAS #409 AFFECTED CAPITAL INVESTMENT
FINANCING DECISIONS?

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
Yes	1	2	2.1
No	46	92	97.9
No Response	3	6	Missing

Total	50	100	100.0

DoD had expressed concern that the Standard would signal a return to the Government having to provide facilities to contractors to induce their participation in defense related contracts. For years, DoD had been shifting away from doing this and had as its stated goal the encouragement of contractors to furnish their own facilities and equipment. Almost 90% of the contractors reported that they did not or did not intend to seek Government owned facilities as a part of their contracts. The fact that a small number of contractors indicated that they would seek the facilities as a result of CAS #409 is difficult to assess but may be of some concern to DoD. Table XXXV summarizes these data.

TABLE XXXV
GOVERNMENT OWNED FACILITIES REQUIRED
AS A RESULT OF CAS #409

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
Yes	5	10	10.6
No	42	84	89.4
No Response	3	6	Missing

Total	50	100	100.0

5. Erosion of the Defense Industrial Base

Question 25.a. Has the promulgation of CAS #409 caused your company to limit or reduce participation in Government contracts?

b. Has there been a reluctance or refusal by your smaller subcontractors to participate in CAS-covered contracts as a result of this Standard?

Several opponents of the Standard expressed an opinion that defense contractors would seek to reduce their participation in Government business because of the Standard's restrictive nature. Proponents argued that the majority of defense contractors were "captive" participants and generally would be unable to shift their direction into commercial pursuits.

Almost all of the respondents indicated that the Standard had not caused their company to reduce participation in Government contracts. This finding might support the

"captive" contractor notion, except that various regulations may have led to a decline over an extended period of time. One contractor stated, "CAS plus other regulations has reduced participation." Table XXXVI summarizes the contractor's responses to this question.

TABLE XXXVI

HAS CAS #409 IMPACTED ON CONTRACTOR PARTICIPATION
IN GOVERNMENT CONTRACTS?

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
Yes	2	4	4.3
No	44	88	95.7
No Response	4	8	Missing

Total	50	100	100.0

Related to the above question, equal concern was expressed regarding the impact on subcontractors. Many industry representatives stated that smaller subcontractors would not seek CAS-covered contracts from prime contractors because of the burdensome requirement to comply with CAS #409. Table XXXVII points out that a large majority of contractors had not observed their subcontractors refusing Government-related contracts. One contractor noted that CAS exemptions for smaller companies had offset the requirement for a contractor to comply with CAS #409. The fact that a

small number of contractors observed a decline might be cause for concern, particularly if it reflects an erosion of the defense industrial base.

TABLE XXXVII

HAS CAS #409 IMPACTED ON SUBCONTRACTOR
PARTICIPATION IN DEFENSE CONTRACTS?

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
Yes	5	10	12.5
No	35	70	87.5
No Response	10	20	Missing

Total	50	100	100.0

6. Disputes

Question 26. Has your company experienced any disputes with procurement officials or auditors regarding implementation and compliance with CAS #409?

Defense contractors and industry spokesmen had criticized the Standard as placing an onerous requirement to document and justify depreciation method and service lives, whereas DAR and IRS regulations were easily understood and applied. Critics argued that disputes would arise over interpretations of the Standard by contracting officers and auditors, regardless of the professed intention of the CASB to minimize these conflicts in the Standard's wording.

In support of industry's contention, Table XXXVIII shows that a majority of contractors reported experience with disputes concerning the implementation of and compliance with the Standard. In assessing the reasons, disputes over service life determination and recordkeeping requirements were dominant. This is not surprising, particularly in view of the majority of contractors that had previously reported that they did not have adequate records to support service life estimates in accordance with the Standard (see Question #16). Reasons for the disputes are indicated in Table XXXIX.

TABLE XXXVIII
EXPERIENCE WITH CONTRACT DISPUTES

Response	Absolute Frequency	Relative Frequency (%)	Adjusted Frequency (%)
Yes	26	52	55.3
No	21	42	44.7
No Response	3	6	Missing

Total	50	100	100.0

TABLE XXXIX
GENERAL NATURE OF THE DISPUTE

Response	Absolute Frequency	Relative Frequency (%)	Rank
Recordkeeping Requirements	17	65	2
Service Life Determination	22	85	1
Depreciation Method	6	23	3
Other	6	23	3

E. SUMMARY

The main focus of this chapter has been to reflect the major opinions and experiences of defense contractors regarding CAS #409. This was accomplished by examining the responses made by contractors to a questionnaire prepared by the author. The questionnaire sought to express contractor opinion on various aspects of the Standard and experience in implementing it. Where applicable, contractor comments were included to amplify the survey data. The responses to each of the survey questions were summarized in tables throughout the text for orderly presentation.

VI. PRINCIPAL FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

A. FINDINGS AND CONCLUSIONS

The objective of this study was to contribute accurate data reflecting defense industry opinion and experience with Cost Accounting Standard No. 409. The following principal findings and conclusions were derived from the survey response data discussed in the preceding chapter:

1. Depreciation expense is a relatively small part of total contract cost. A majority of contractors reported that depreciation expense was 2% or less of the cost of Government sales. Over 95% reported that depreciation expense was 5% or less of the cost of sales.

2. The Standard, as promulgated, is generally understood by contractors. Only 10% of the responding companies indicated that the Standard was unclear in communicating its requirement.

3. Contractors are of the opinion that the Standard will have no effect in controlling costs or giving greater visibility to depreciation data. A similar opinion was expressed by Government representatives in an AGA sponsored survey.

4. The Standard has had a negative impact on the contracting process--making it more difficult and subject to more contractor/Government disagreement.

5. Contractors have not changed their depreciation methods for contract costing, financial accounting or income tax reporting. Changes in the Standard's wording from preliminary drafts to its final form have apparently given contractors adequate flexibility in selecting and justifying their depreciation methods.

6. Prior to the Standard, contractors primarily relied on IRS asset "guideline lives" for determining the useful life of an asset. Historical experience, which is favored by the Standard, was used by only 20% of the contractors in determining asset service life.

7. A significant majority of contractors reported that they did not have adequate records to document and support their service life estimates as required by the Standard. This finding is in direct conflict with the Board's prefatory comments to the Standard. Contractors not having adequate records indicated that the lack of records supporting standby or incidental use was the principal reason. The cost to contractors not having adequate records has been considerable. Contractors reported an average cost of \$110,690 to implement the recordkeeping requirement and an annual average cost of \$44,674 to maintain the records.

8. Contractors have generally not modified their service life estimates to reflect obsolescence factors. This may be due in part to the newness of the Standard and the short experience of contractors since its effective date. Where experience existed, the respondents reported that the

appropriate changes in asset lives were generally acceptable to contracting officers and auditors. Related to this finding is contractor opinion regarding guidance available to contracting officers and auditors. A majority reported that adequate written guidance is not available or the extent of the guidance was unknown to the contractor.

9. Contractors generally view as more equitable the use of a fixed schedule of service lives (for example, IRS Guidelines), rather than the use of individual historical experience. Companies saw the emphasis on historical experience as a departure from the CASB's stated objective of promoting uniformity and consistency in cost accounting practice.

10. Where special circumstances exist that would lead to an adjustment to service life estimates, most contractors reported no problem in making the adjustment. This is perhaps due in part to specific guidance provided to contracting officers and auditors with respect to applying this provision of the Standard.

11. In spite of early predictions by industry that the Standard would restrict cash flow, over 70% of the company respondents reported that no cash flow reduction was experienced. For the respondents indicating reduced cash flow, nine companies reported an aggregate annual reduction of \$31,770,000, one of which was alleged to be \$25,000,000.

12. Efforts by the Board to address the cost of capital in the form of CAS #414 and changes to DoD profit policy have not offset the effect of CAS #409 on contractor cash flow

and profitability. In certain instances, contractor profitability may actually be less than it would have been under the old policy.

13. CAS #409 did not cause contractors to change their capital investment plans or decisions. An overwhelming majority of contractors reported no change in their investment plans or in their method of financing and no need for Government-owned facilities as part of their contracts.

14. Prime contractors and subcontractors have not reduced their participation in defense contracts due to any disincentives contained in the Standard. For small subcontractors, exemption or modified CAS coverage has probably offset the need to comply with CAS #409.

15. The Standard has led to disputes and conflicts with contracting officers and auditors. Over half of the respondents reported that disagreement had existed with respect to CAS #409. The nature of the disagreement primarily focused on contractors' service life determinations and recordkeeping.

B. RECOMMENDATIONS

The following actions are recommended:

1. Contractor opinion and experience with CAS #409 focused on the Standard's intent and subsequent problems with its implementation and interpretation. From the research identified in this study concerning CAS #409, it is recommended that the CAS development process be amended to minimize

these problems in the future. Prior to the effective date of a Cost Accounting Standard, thorough guidance should be developed for its implementation and interpretation. This guidance should be developed jointly by the CASB, Office of the Secretary of Defense (MRA&L/Comptroller), DCAA and defense industry representatives (for example, CODSIA, AIA, MAPI). This action would serve to provide a common framework of understanding in which a Standard can be promulgated. Disputes and disagreements would be minimized, and an orderly implementation of the Standard's provisions would be provided for.

2. Much of the controversy surrounding CAS #409 centered on whether a conflict existed with the Standard's requirements and the stated goals and policies of the nation. The CASB charter should be re-evaluated by the Congress as it relates to similar policy issues arising from the development of future Standards. As an agency of the Congress, the promulgations of the CASB should be consistent with stated public policy objectives. Each CAS should be evaluated by the CASB with these objectives in mind, and an "economic impact report" should be prepared prior to issuing future Standards. Although the Standards deal directly with cost accounting practices, they inevitably have an impact on Government procurement policies and, hence, on contractors' financial positions.

3. The Department of Defense, as a part of its current assessment of profit policy, should evaluate the impact of

CAS #409 on contractor depreciation practices. DoD profit policy should provide adequate incentives for contractors to participate in defense contracts and should recognize how depreciation affects profitability and cash flow.

4. A follow-on study of CAS #409 should be conducted in the future, after contractors have had adequate experience in implementing and applying the Standard in order to provide a better perspective of its impact on the defense industry. The subsequent study might include contractor interviews and a case study to provide an in-depth evaluation. This analysis could provide a framework for changes to the Standard's language, its implementation and interpretation, and its economic impact. Indeed, further research into the economic impacts of all Cost Accounting Standards is recommended.

C. REVIEW OF THE RESEARCH QUESTIONS

The basic research question of this project was: What is the impact of Cost Accounting Standard No. 409 on the defense industry? Subsidiary questions included:

1. In the opinion of the defense industry, how has the Standard affected the contracting process?
2. How has the Standard affected the accounting practice of the defense industry regarding depreciation?
3. What costs, if any, were incurred by the defense industry in implementing the Standard?
4. Has cash flow and capital investment by contractors been affected by the Standard? In what way?

A majority of contractors are of the opinion that the contracting process has been made more difficult as a result of the Standard. Actual experience by contractors further supports this opinion. A majority have also experienced actual disagreement or conflict with contracting officers and auditors over the Standard's provisions. To a certain extent, the conflict might arise from a lack of written guidance to contracting officers and auditors and/or the contractor's unfamiliarity with what guidance actually exists.

The Standard has not significantly altered the depreciation accounting practice of industry. Contractors have not had to change methods in order to be in compliance with the Standard. The most significant change has been the need to develop and evaluate records to support their service life estimates. Generally, contractors have been able to justify obsolescence factors or special circumstances to adjust historical service lives.

Contractors have incurred significant costs to implement the Standard. Not only have contractors experienced "sunk" costs in implementing the Standard and developing supporting documentation, but continuing annual costs are being incurred to comply with the Standard. For the most part, these will be added costs to the Government in the form of overhead and general and administrative costs of contracts.

Contractors' and DoD's concerns over the possible disincentives to contractors' capital investment and the erosion

of the industrial base have not been proved justified. Caution should be used in stating this finding, however. Disincentives and erosion should be evaluated within the context of the whole body of controls and regulation that apply to the defense industry. The bitter controversy surrounding this Standard focused attention on these problems. Greater emphasis needs to be directed at these issues in the future if we are to maintain our defense and industrial posture.

In conclusion, the Standard has had a fairly modest impact on the defense industry. In general, the reaction has been negative. However, many of the forecasted problems projected by industry and the Department of Defense did not develop. Future review is necessary to stay abreast of these issues as the Standard reaches maturity and its full impact can be assessed.

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COST ACCOUNTING STANDARDS BOARD

[4 CFR Part 409]

DEPRECIATION OF TANGIBLE CAPITAL ASSETS

Proposed Cost Accounting Standard

Notice is hereby given of a proposed Cost Accounting Standard on the Depreciation of Tangible Capital Assets, being considered by the Cost Accounting Standards Board for promulgation to implement further the requirement of Section 719 of the Defense Production Act of 1950, as amended, Public Law 91-379, 50 U.S.C. App. 2168. When promulgated, the Standard will be used by all relevant Federal agencies and national defense contractors and subcontractors.

The proposed Standard, if adopted, would be one of a series of Cost Accounting Standards which the Board is promulgating "to achieve uniformity and consistency in the cost accounting principles followed by defense contractors and subcontractors under Federal contracts." (See section 719(g) of the Defense Production Act of 1950, as amended.) It is anticipated that any contractor receiving an award of a contract on or after the effective date of this Standard will be required to follow it in accordance with the provisions of § 409.80.

Income tax regulations have established bases for selection of depreciation lives and methods of depreciation for assigning depreciation cost to accounting periods. Our research has indicated that contractors often select depreciation lives and methods for contract costing purposes based on what is permitted by these regulations rather than on bases which are representative of the consumption of the service potential of the tangible capital asset. In these circumstances many choices have resulted in unduly accelerating allocation of depreciation cost to earlier cost accounting periods and to final cost objectives within those earlier cost accounting periods.

The proposed Standard would establish the principle that for contract costing purposes the service lives established for tangible capital assets be the expected actual service lives at the date of acquisition. Accordingly, the proposed Standard would require that the service lives used shall be the estimates used for financial accounting purposes unless financial accounting lives are unrealistic, in which case the proposed Standard would require that more realistic estimated service lives be used. The proposed Standard also would require that the method of depreciation used for contract costing purposes approximate the expected consumption of asset services in each cost accounting period. The method of depreciation used for financial ac-

PROPOSED RULES

ounting purposes is satisfactory if reasonable in the circumstances.

The Board calls attention to the treatment that would be prescribed in connection with changes in estimated service life, residual value, or method of depreciation. This proposed Standard would require that adjustments be applicable only to the remaining undepreciated cost of the assets, which remaining cost shall be amortized in the current and future periods in accordance with the new determinations. The treatment provided in this proposed Standard for changes in accounting estimates such as changes in expected life is the same as that which Opinion No. 20 of the Accounting Principles Board (July 1971) provides for financial reporting. APB Opinion No. 20, however, provides that changes in accounting principle may involve corrections for cumulative effects in prior periods; a change in depreciation method for existing assets is used (paragraph 22 of the Opinion) as an example of a change in accounting principle requiring changes related to prior periods. For contract costing purposes, the Board does not propose retroactive changes. Amounts once charged off as depreciation expense should not be reinstated and again be available for charge against future projects. Conversely, if assets have not yet been charged off, it would be equitable that the entire remaining depreciable cost of those assets be identified to cost objectives of future periods.

Included in the proposed Standard is an Appendix A, which was derived from the Internal Revenue Service's Revenue Procedure 71-25. The proposed Standard would use Revenue Procedure 71-25 "Asset Guideline Periods" to establish lower limits for estimated service lives that may be used for contract costing purposes where contractors' accounting records do not support shorter lives.

The proposed Standard is expected to be applied by contractors in situations where depreciation cost is a factor in determining equitable charging rates to be used as a basis for contract costing. For example, the development of rate schedules for construction plant and equipment and ownership costs for comparison to lease or rental costs would be accomplished in conformance with the requirements of the proposed Standard. The proposed Standard also would be used by educational institutions in determining amounts to be compensated for use of buildings, capital improvements and equipment.

The Cost Accounting Standards Board is particularly interested in comments on the above subjects. The Board also solicits comments on any other matter concerning the proposed Cost Accounting Standard which will assist the Board in its consideration of the proposal.

Interested persons should submit written data and views, concerning the proposed Cost Accounting Standard to the Cost Accounting Standards Board, 441 G Street, NW., Washington, D.C. 20548.

To be given consideration by the Board in its determination relative to

final promulgation of the Cost Accounting Standard covered by this notice, written submissions must be made to arrive no later than August 12, 1974.

NOTE: All written submissions made pursuant to this notice will be made available for public inspection at the Board's office during regular business hours.

Sec.	
409.10	General applicability.
409.20	Purpose.
409.30	Definitions.
409.40	Fundamental requirement.
409.60	Techniques for application.
409.60	Illustrations.
409.70	Exemptions.
409.80	Effective date.

AUTHORITY: Sec. 719 of the Defense Production Act of 1950, as amended, Pub. L. 91-379, 50 U.S.C. App. 2168.

§ 409.10 General applicability.

This Standard shall be used by defense contractors and subcontractors under Federal contracts entered into after the effective date hereof and by all relevant Federal agencies in estimating, accumulating, and reporting costs in connection with the pricing, administration, and settlement of all negotiated prime contract and subcontract national defense procurements with the United States in excess of \$100,000, other than contracts or subcontracts where the price negotiated is based on (a) established catalog or market prices of commercial items sold in substantial quantities to the general public, or (b) prices set by law or regulation.

§ 409.20 Purpose.

(a) The purpose of this Standard is to provide criteria and guidance for assigning costs of tangible capital assets to cost accounting periods and for allocating such costs to cost objectives within such periods in an objective and consistent manner. The standard is based on the concept that depreciation costs identified with cost accounting periods and benefiting cost objectives within periods should be a reasonable measure of the expiration of service potential of the tangible assets subject to depreciation. Adherence to this Standard should provide a systematic and rational flow to benefiting cost objectives of the costs of tangible capital assets over their expected service lives.

(b) This Standard does not cover non-wasting assets or natural resources which are subject to depletion.

§ 409.30 Definitions.

(a) *Residual value.* The proceeds (less removal and disposal costs, if any) realized upon disposition of a tangible capital asset. It usually is measured by the net proceeds from the sale or other disposition of the asset, or the fair value if the asset is traded in on another asset.

(b) *Service life.* The period of usefulness of a tangible capital asset (or group of assets) to its current owner. The period may be expressed in units of time or output. The estimated service life of a tangible capital asset (or group of assets) is a forecast of the period of use-

fulness of the asset(s) and is the period over which depreciation cost is to be assigned.

(c) *Tangible capital asset.* An asset that has physical substance, more than minimal value, and is expected to be held by an enterprise for continued use or possession beyond the current accounting period for the services it yields.

§ 409.40 Fundamental requirement.

(a) The depreciable cost of a tangible capital asset (or group of assets) shall be assigned to cost accounting periods in accordance with the following criteria:

(1) The depreciable cost of a tangible capital asset shall be its capitalized cost less its estimated residual value.

(2) The estimated service life of a tangible capital asset (or group of assets) shall be used to determine the cost accounting periods to which the depreciable cost will be assigned.

(3) The method of depreciation selected for assigning the depreciable cost of a tangible capital asset (or group of assets) to the cost accounting periods representing its estimated service life shall reflect the expected consumption of services in each cost accounting period.

(4) Gain or loss upon disposition of a tangible capital asset shall be assigned to the cost accounting period in which the disposition occurs.

(b) The annual depreciation cost of a tangible capital asset (or group of assets) shall be allocated to cost objectives for which it provides service in accordance with the following criteria:

(1) Depreciation cost may be directly charged to cost objectives only when such charges are made on the basis of usage and depreciation costs of all like assets used for similar purposes are charged in the same manner.

(2) Where tangible capital assets are part of, or function as, an organizational unit whose costs are charged to other cost objectives based on a measure of the services provided by the organizational unit, the depreciation cost of such assets shall be included as part of the cost of the organizational unit.

(3) All depreciation costs which are not allocated in accordance with paragraph (b) (1) or (2) of this section shall be included in appropriate indirect cost pools.

(4) Gains or losses from disposition of a tangible capital asset shall be allocated in the same manner as the depreciation cost of the asset had been or would have been allocated for the cost accounting period in which the disposition occurs.

§ 409.50 Techniques for application.

(a) Depreciation of a tangible capital asset shall begin when the asset is ready for use in a normal or acceptable fashion. However, where partial utilization of a tangible capital asset is identified with a specific operation, depreciation shall commence on any portion of the asset which is substantially completed and used for that operation. Depreciation of capitalized spare parts which are normally required for the operation of a

ible capital asset shall be accounted over the service life of the asset.

(b) A consistent policy shall be followed in determining the depreciable cost to be assigned to the beginning and ending cost accounting periods of asset. Although depreciation begins for accounting purposes as of the time an asset is ready for use, the policy may provide any reasonable starting and ending dates in computing the first and last year depreciable cost.

(c) Tangible capital assets may be accounted for by treating each individual asset as an accounting unit, or by combining two or more assets as a single accounting unit provided such treatment is consistently applied over the service life of the assets or group of assets.

(d) (1) Estimated service lives initially published for tangible capital assets (or groups of assets) shall be their expected useful periods of usefulness. Where service lives used for financial accounting purposes reflect such periods of usefulness, those lives shall be used for contract costing. In no case, however, shall service lives be used if they are shorter than the asset guideline periods established for asset guideline classes under rules in Appendix A, except as authorized by paragraph (e)(1) of this section. If the contractor's estimated service lives established for financial accounting purposes are unrealistic or shorter than the asset guideline periods or the rules in Appendix A, he shall publish and support, if requested, appropriate estimated service lives for contract costing.

(2) If a contractor accounts for tangible capital assets other than by asset guideline classes established by the rules in Appendix A, the contractor shall, if requested, be required to demonstrate that service lives used are the same as or longer than the asset guideline periods. This shall be accomplished by applying all tangible capital assets in accordance with the groups required by the rules in Appendix A. If annual depreciation cost computed for any asset guideline class using the asset guideline periods is less than the depreciation cost which would have been computed for the assets using the contractor's established depreciation method, the contractor must make appropriate adjustment to the lives used or support those lives provided in paragraph (e)(1) of this section.

(3) Shorter estimated service lives than those required by paragraph (d) of this section may be used if the shorter lives are supported by records of retirement or replacement experience.

(4) The contracting parties may agree in advance on the estimated service life of an individual tangible capital asset in special circumstances warrant a shorter estimated service life than the one applied to the group in which that asset would be included in the absence of agreement.

(5) (1) The method of depreciation used for financial accounting purposes shall be used for contract costing un-

less (1) such method does not reflect the expected consumption of services for the tangible capital asset (or group of assets) to which applied, or (2) the method is unacceptable for Federal income tax purposes. If the contractor's method of depreciation used for financial accounting purposes does not approximate the expected consumption of services or is unacceptable for Federal income tax purposes, he shall establish and support, if requested, a method of depreciation for contract costing which meets these criteria.

(2) Consumption of asset services may be measured either by the expected activity or by the expected physical output of the assets, as for example: Hours of operation, number of operations performed, number of units produced, or number of miles traveled. An acceptable surrogate for expected activity or output might be a monetary measure of that activity or output such as estimated labor dollars, total cost incurred or total revenues generated by use of tangible capital assets to the extent that such monetary measures can reasonably be related to specific tangible capital assets (or group of assets). The appropriate method of depreciation should be selected as follows:

(i) An accelerated method of depreciation is appropriate where the consumption of asset services is significantly greater in early years of asset life.

(ii) The straight line method of depreciation is appropriate where the consumption of asset services is reasonably level over the service life of the asset (or group of assets).

(iii) A decelerated method of depreciation (e.g., sinking fund method) may be used by the owner of assets that are used by others under a financing lease.

(4) Each original complement of low-cost equipment shall be depreciated to half its depreciable cost over half of the average service life of the original group of items which comprise the original complement. The complement shall not be further depreciated until such time as it can be determined when the complement will be disposed of or when the operational unit for which the complement was acquired will cease operation. At that time the remaining depreciable cost shall be written off over the remaining service life of the complement.

(5) Estimated residual values shall be determined for all tangible capital assets (or groups of assets). Only estimated residual values which exceed 10% of the capitalized cost of the asset must be used in establishing depreciable costs. However, where the declining balance method of depreciation is used the residual value need not be deducted from capitalized cost to determine depreciable costs. No depreciation cost shall be charged which would reduce book value of the tangible capital asset below the residual value.

(6) Estimates of service life, consumption of services, and residual value shall be reexamined periodically for tangible capital assets (or groups of assets). Where changes are made to the estimated service life, residual value, or

method of depreciation during the life of a tangible capital asset, the remaining depreciable costs for cost accounting purposes shall be limited to the undepreciated cost of the assets and shall be assigned only to the cost accounting period in which the change is made and subsequent periods.

(7) (1) Gains and losses on disposition of tangible capital assets shall be considered as adjustments of the depreciation costs previously recognized and shall be assigned to the cost accounting period in which disposition occurs. The gain or loss for each asset disposed of is the difference between the amount realized and its undepreciated balance, adjusted for costs of disposal.

(2) Gains and losses on the disposition of tangible capital assets shall not be recognized where: (i) Such gains and losses are processed through the depreciation valuation account (e.g., reserve for depreciation allowance for depreciation, contra asset valuation); (ii) the asset is given in exchange as part of the purchase price of a similar asset and the gain or loss is included in computing the depreciable cost of the new asset; or (iii) the disposition results from an involuntary conversion and the asset is replaced by a similar asset. In the last case the gain or loss shall be included in computing the depreciable cost of the new asset.

(3) The contracting parties may agree on a different treatment of gains and losses arising from mass or extraordinary dispositions.

(4) Gains and losses on disposition of tangible capital assets transferred in other than an arms-length transaction and disposed of within 12 months from the date of transfer shall be assigned to the transferor.

(5) Where, in accordance with Section 409 (b)(1), the depreciation costs of like tangible capital assets used for similar purposes are directly charged to cost objectives on the basis of usage, average charging rates shall be established for such assets where the depreciation cost of one or more assets is charged on a usage basis. Any variances between total depreciation cost charged to cost objectives and total depreciation cost for the cost accounting period shall be accounted for in accordance with the contractor's practice for handling such variances.

(6) Depreciation methods, estimated service lives and estimated residual values need not be changed for assets acquired prior to compliance with this Standard if otherwise acceptable under applicable procurement regulations. However, any changes to depreciation methods, estimated service life or estimated residual value must conform to the criteria established in this Standard and may be effected on a prospective basis to cover the undepreciated balance of cost by agreement between the contracting parties pursuant to (a)(4)(B) of the Contract Clause set out at § 331.50 of this title (4 CFR 331.50).

§ 409.60 Illustrations.

The following examples are illustrative of the provisions of this Standard.

PROPOSED RULES

(a) A contractor purchases a milling machine for its machine shop to replace a milling machine which was fully depreciated and retired from service. Production records, maintained for a group of like milling machines in the machine shop by the contractor, indicate that the milling machines have a capability to produce more units of product in the earlier years of service life than in later years and the number of units produced decrease for each succeeding year of service life. Therefore, the contractor's records support depreciation charges on an accelerated basis for the replacement milling machine. Since the Standard requires that the contractor's method approximate the expected consumption of services, annual charges for depreciation should be higher in early years to reflect the decreasing usage of the asset over time.

(b) The contractor also purchases a lathe for its machine shop. The contractor, as a regular step in its fixed asset procurement process, prepares a summary of estimated revenues to be derived from the use of the lathe to support the company's decision to buy the asset. The summary shows estimated revenues by fiscal year and indicates that, because of inability to hold tolerances, revenues to be derived from use of the lathe will be lower in later years. Therefore, the summary of estimated revenues supports depreciation charges on an accelerated basis for the lathe. Since the Standard requires that the contractor's depreciation method approximate the expected consumption of services, and estimated revenues may be used as a surrogate for actual machine usage, annual charges for depreciation should be higher in early years of asset life.

(c) The contractor desires to charge depreciation of the milling machine described in paragraph (a) of this section directly to final cost objectives. Usage of the milling machine can be measured easily based on units produced. Contractor may charge depreciation cost directly on a unit of production basis provided he uses an average depreciation charge for all like milling machines in the machine shop and charges depreciation for all like milling machines directly to final cost objectives.

(d) The capitalized cost of the milling machine described in paragraph (a) of this section was \$50,000. It is estimated that the milling machine will have a residual value of \$4,500 upon disposition. Because \$4,500 is less than 10% of capitalized cost, annual depreciation charges may be based on capitalized cost of \$50,000. However, the asset must not be depreciated below the \$4,500 residual value.

(e) (1) A contractor outfits a new office building with miscellaneous low cost furniture and fixtures total \$250,000 which he capitalizes as an original complement of low cost equipment. The service life of the new building is estimated at 40 years and it is expected that the building will be operated as an office building for its entire life. It is expected that the furniture and fixtures will have

an average life of 12 years and will have a minimal residual value upon disposition. Contractor should depreciate half of the capitalized cost of the original complement over six years. Replenishments to the original complement may be expensed as acquired.

(2) At the beginning of the 15th year of use of the complement, the contractor decides to replace the total complement in that cost accounting period. The net book value of the original complement should be adjusted to actual residual value in that cost accounting period.

(f) A contractor acquires a test facility with an estimated physical life of ten years, to be used on contracts for a new program. The test facility was acquired for \$5 million. It is expected that the program will be completed in six years and the test facility acquired will not be required for other products of the contractor. Although the facility will last ten years, the contractor may depreciate the equipment over six years. If the use of a six-year life for this asset would cause the average lives used for the asset guideline class to be shorter than the periods established under the rules in Appendix A, the contracting parties may agree that the asset is to be treated separately for the test of guideline lives.

(g) Contractor acquires a building by donation from its local Government. The building had been purchased new by another company and subsequently acquired by the local Government. Contractor capitalizes the building at its fair value. Under this Standard the depreciable cost of the asset based on that value, if otherwise allowable, may be ac-

counted for over its estimated service life and allocated to cost objectives in accordance with the contractor's cost allocation practices.

(h) A contractor accounts for two groups of assets subject to this Standard. This illustration describes the average estimated service life that shall be used to determine the cost accounting periods to which the depreciation cost will be assigned for contract costing purpose.

[In years]

	Average service lives	
	Group A	Group B
Estimated service life for financial accounting purposes.....	12	12
Estimated service life for income tax purposes using the lower limit of the asset depreciation range.....	8	12
Asset guideline periods under Appendix A.....	10	15
The life which must be used for contract costing in compliance with § 409.50(d)(1).....	12	15

¹ Unless such life reflects an unrealistic expectation of actual service life.

² Unless contractor can support a shorter service life.

§ 409.70 Exemptions.

None for this standard.

§ 409.80 Effective date.

(a) The effective date of this Cost Accounting Standard is [Reserved].

(b) This Cost Accounting Standard shall be followed by each contractor for all assets acquired on or after the start of his next fiscal year beginning after the receipt of a contract to which this Cost Accounting Standard is applicable.

APPENDIX

Asset guideline classes and periods

Asset guideline class	Description of assets included	Asset guideline period (in years)
00.0	Depreciable assets used in all business activities, except as noted:	
00.1	Office furniture, fixtures, machines, and equipment: Includes furniture and fixtures which are not a structural component of the building, and machines and equipment used in the preparation of papers or data. Includes such assets as desks, files, safes, typewriters, accounting, calculating and data processing machines, communications, duplicating and copying equipment.....	10
00.2	Transportation equipment:	
00.21	Aircraft (airframes and engines) except aircraft of air transport companies.....	6
00.22	Automobiles, taxis.....	3
00.23	Buses.....	9
00.24	General purpose trucks, including concrete ready-mix trucks and ore trucks for use over-the-road:	
00.241	Light (actual unloaded weight less than 13,000 lb).....	4
00.242	Heavy (actual unloaded weight 13,000 lb or more).....	9
00.25	Railroad cars and locomotives, except those owned by railroad transportation companies.....	15
00.26	Tractor units used over-the-road.....	4
00.27	Trailers and trailer-mounted containers.....	6
00.28	Vessels, barges, tugs and similar water transportation equipment, except those used in marine contract construction.....	18
01.0-79.0	Depreciable assets used in the following activities:	
01.9	Agriculture: Includes only such assets as are identified below and that are used in the production of crops or plants, vines and trees (including forestry); the keeping, grazing, or feeding of livestock for animal products (including serums), for animals increase, or value increase; the operation of dry lot or farm dairies, nurseries, greenhouses, sod farms, mushroom cellars, cranberry bogs, apiaries, and fur farms; the production of bulb, flower, and vegetable seed crops; and the performance of agricultural, animal husbandry and horticultural services.	
01.1	Machinery and equipment, including grain bins and fences but no other land improvements.....	10
01.21	Animals:	
01.21	Cattle, breeding or dairy.....	7
01.22	Horses, breeding or work.....	10
01.23	Hogs, breeding.....	3
01.24	Sheep and goats, breeding.....	5
01.3	Farm buildings.....	25
10.0	Mining: Includes assets used in the mining and quarrying of metallic and nonmetallic minerals (including sand, gravel, stone, and clay) and the milling beneficiation and other primary preparation of such materials.....	10
13.0	Petroleum and natural gas production and related activities.....	

PROPOSED RULES

20509

Asset guideline classes and periods—Continued

Asset guideline class	Description of assets included	Asset guideline period (in years)
13.1	Drilling of oil and gas wells: Includes assets used in the drilling of oil and gas wells on a contract, fee or other basis and the provision of geophysical and other exploration services; and the provision of such oil and gas field services as chemical treatment, plugging and abandoning of wells and cementing or perforating well casings; but not including assets used in the performance of any of these activities and services by integrated petroleum and natural gas producers for their own account.	6
13.2	Exploration for petroleum and natural gas deposits: Includes assets used for drilling of wells and production of petroleum and natural gas, including gathering pipelines and related storage facilities, ¹ when these are related activities undertaken by petroleum and natural gas producers.	14
13.3	Petroleum refining: Includes assets used for the distillation, fractionation, and catalytic cracking of crude petroleum into gasoline and its other components.	16
13.4	Marketing of petroleum and petroleum products: Includes assets used in marketing, such as related storage facilities and complete service stations, ¹ but not including any of these facilities related to petroleum and natural gas trunk pipelines.	16
15.0	Contract Construction: Includes such assets used by general building, special trade, heavy construction and marine contractors; does not include assets used by companies in performing construction services on their own account.	5
15.1	Contract construction other than marine.	12
15.2	Marine contract construction.	12
20.0	Manufacture of foods and beverages for human consumption, and certain related products, such as manufactured ice, chewing gum, vegetable and animal fats and oils, and prepared feeds for animals and fowls.	17
20.1	Grain and grain mill products: Includes assets used in the production of flours, cereals, livestock feeds, and other grain and grain mill products.	18
20.2	Sugar and sugar products: Includes assets used in the production of raw sugar, syrup or finished sugar from sugar cane or sugar beets.	18
20.3	Vegetable oils and vegetable oil products: Includes assets used in the production of oil from vegetable materials and the manufacture of related vegetable oil products.	18
20.4	All other food and kindred products: Includes assets used in the production of foods, beverages and related production not included in classes 20.1, 20.2, and 20.3.	12
21.0	Manufacture of tobacco and tobacco products: Includes assets used in the production of cigarettes, cigars, smoking and chewing tobacco, snuff and other tobacco products.	15
22.0	Manufacture of textile mill products:	
22.1	Knitwear and knit products: Includes assets used in the production of knit apparel and other finished articles from yarn.	9
22.2	Textile mill products, except knitwear: Includes assets used in the production of spun, woven or processed yarns and fabrics, of mattresses, carpets, rugs, pads, and sheets, and of other products of natural or synthetic fibers.	14
22.3	Finishing and dyeing: Includes assets used in the finishing and dyeing of natural and synthetic fibers, yarns, and fabric and knit apparel.	12
23.0	Manufacture of apparel and other finished products: Includes assets used in the production of clothing and fabricate textile products by the cutting and sewing of woven fabrics, other textile products and furs; but does not include assets used in the manufacture of apparel from rubber and leather.	9
24.0	Manufacture of lumber and wood products:	
24.1	Cutting of timber: Includes logging machinery and equipment and road building equipment used by logging and sawmill operators and pulp manufacturers on their own account.	6
24.2	Sawing of dimensional stock from logs: Includes machinery and equipment installed in permanent or well-established sawmills.	10
24.3	Sawing of dimensional stock from logs: Includes machinery and equipment installed in sawmills characterized by temporary foundations and a lack, or minimum amount, of lumber-handling, drying, and residue-disposal equipment and facilities.	6
24.4	Manufacture of lumber, wood products and furniture: Includes assets used in the production of plywood, bardboard, flooring, veneers, furniture and other wood products, including the treatment of poles and timber.	10
26.0	Manufacture of paper and allied products:	
26.1	Manufacture of pulps from wood and other cellulose fibers and rags: Includes assets used in the manufacture of paper and paperboard, but does not include the assets used in pulpwood logging nor the manufacture of hardboard.	16
26.2	Manufacture of paper and paperboard: Includes assets used in the production of converted products such as paper coated off the paper machine, paper bags, paper boxes, and envelopes.	12
27.0	Printing, publishing and allied industries: Includes assets used in printing by one or more of the common processes, such as letterpress, lithography, gravure, or screen; the performance of services for the printing trade, such as bookbinding, typesetting, engraving, photoengraving, and electrotyping; and the publication of newspapers, books, and periodicals, whether or not carried out in conjunction with printing.	11
28.0	Manufacture of chemicals and allied products: Includes assets used in the manufacture of basic chemicals such as acids, alkalines, salts, and organic and inorganic chemicals; chemical products to be used in further manufacture, such as synthetic fibers and plastics materials, including petro-chemical processing beyond that which is ordinarily a part of petroleum refining; and finished chemical products, such as pharmaceuticals, cosmetics, soaps, fertilizers, paints and varnishes, explosives, and compressed and liquefied gases. Does not include assets used in the manufacture of finished rubber and plastic products or in the production of natural gas products, butane, propane, and by-products of natural gas production plants.	11
30.0	Manufacture of rubber and plastics products:	
30.1	Manufacture of rubber products: Includes assets used for the production of products from natural, synthetic, or reclaimed rubber, gutta percha, balata, or gutta serena, such as tires, tubes, rubber footwear, mechanical rubber goods, heels and soles, flooring, and rubber sundries; and in the recapping, retreading, and rebuilding of tires.	14
30.2	Manufacture of miscellaneous finished plastics products: Includes assets used in the manufacture of plastics products and the molding of primary plastics for the trade. Does not include assets used in the manufacture of basic plastics materials nor the manufacture of phonograph records.	11
31.0	Manufacture of leather: Includes assets used in the tanning, currying, and finishing of hides and skins; the processing of fur pelts; and the manufacture of finished leather products, such as footwear, belting, apparel, luggage and similar leather goods.	11
32.0	Manufacture of stone, clay, glass, and concrete products:	
32.1	Manufacture of glass products: Includes assets used in the production of flat, blown, or pressed products of glass, such as plate safety and window glass, glass containers, glassware and fiberglass. Does not include assets used in the manufacture of lenses.	14
32.2	Manufacture of cement: Includes assets used in the production of cement, but does not include any assets used in the manufacture of concrete and concrete products nor in any mining or extraction process.	20

PROPOSED RULES

Asset guideline classes and periods—Continued

Asset guideline class	Description of assets included	Asset guideline period (in years)
32.3	Manufacture of other stone and clay products: Includes assets used in the manufacture of products from materials in the form of clay and stone, such as brick, tile and pipe; pottery and related products, such as vitreous-china, plumbing fixtures, earthenware and ceramic insulating materials; and also includes assets used in manufacture of concrete and concrete products. Does not include assets used in any mining or extraction processes.	15
33.0	Manufacture of primary metals: Includes assets used in the smelting and refining of ferrous and nonferrous metals from ore, pig, or scrap, the rolling, drawing, and alloying of ferrous and nonferrous metals; the manufacture of castings, forgings, and other basic products of ferrous and nonferrous metals; and the manufacture of nails, spikes, structural shapes, tubing, and wire and cable:	
33.1	Ferrous metals.	18
33.2	Nonferrous metals.	14
34.0	Manufacture of fabricated metal products: Includes assets used in the production of metal cans, tinware, nonelectric heating apparatus, fabricated structural metal products, metal stampings and other ferrous and nonferrous metal and wire products not elsewhere classified.	12
35.0	Manufacture of machinery, except electrical and transportation equipment:	
35.1	Manufacture of metalworking machinery: Includes assets used in the production of metal cutting and forming machines, special dies, tools, jigs, and fixtures, and machine tool accessories.	12
35.2	Manufacture of other machines: Includes assets used in the production of such machinery as engines and turbines; farm machinery, construction, and mining machinery; general and special industrial machines including office machines and nonelectronic computing equipment; miscellaneous machines except electrical equipment and transportation equipment.	12
36.0	Manufacture of electrical machinery, equipment, and supplies: Includes assets used in the production of machinery, apparatus, and supplies for the generation, storage, transmission, transformation, and utilization of electrical energy:	
36.1	Manufacture of electrical equipment: Includes assets used in the production of such machinery as electric test and distributing equipment, electrical industrial apparatus, household appliances, electric lighting and wiring equipment; electronic components and accessories, phonograph records, storage batteries and ignition systems.	12
36.2	Manufacture of electronic products: Includes assets used in the production of electronic detection, guidance, control, radiation, computation, test and navigation equipment and the components thereof. Does not include the assets of manufacturers engaged only in the purchase and assembly of components.	8
37.0	Manufacture of transportation equipment: Includes assets used in the production of such machinery as vehicles and equipment for the transportation of passengers and cargo:	
37.1	Manufacture of motor vehicles and parts: Includes assets used in the production of automobiles, trucks, trailers, buses and their component parts.	12
37.2	Manufacture of aerospace products: Includes assets used in the production of aircraft, spacecraft, rockets, missiles and their component parts.	8
37.3	Ship and boat building: Includes assets used in the manufacture and repair of ships and boats, but excludes dry docks.	12
37.4	Manufacture of railroad transportation equipment: Includes assets used in the building and rebuilding of railroad locomotives, railroad cars, and street railway cars.	12
38.0	Manufacture of professional, scientific, and controlling instruments: photographic and optical goods; watches and clocks: Includes assets used in the manufacture of mechanical measuring, engineering, laboratory and scientific research instruments; optical instruments and lenses; surgical, medical and dental instruments, equipment and supplies; ophthalmic goods, photographic equipment and supplies; and watches and clocks.	12
39.0	Manufacture of products not elsewhere classified: Includes assets used in the production of jewelry; musical instruments; toys and sporting goods; pens, pencils, office and art supplies. Also includes assets used in production of motion picture and television films and tapes; as waste reduction plants; and in the ginning of cotton.	12
40.0	Railroad transportation: Includes the assets identified below and which are used in the commercial and contract carrying of passengers and freight by rail. Excludes any nondepreciable assets included in Interstate Commerce Commission accounts enumerated for this class:	
40.1	Railroad machinery and equipment: Includes assets classified in the following Interstate Commerce Commission accounts: ¹ Road accounts: (16) Station and office buildings (freight handling machinery and equipment only) (28) Communication systems (27) Signals and interlockers (37) Roadway machines (44) Shop machinery Equipment accounts: (52) Locomotives (53) Freight train cars (54) Passenger train cars (55) Highway revenue equipment (57) Work equipment	14
40.2	Railroad structures and similar improvements. Includes assets classified in the following Interstate Commerce Commission road accounts: ¹ (6) Bridges, trestles, and culverts (7) Elevated structure (13) Fences, snowsheds, and signs (16) Station and office buildings (stations and other operating structures only) (17) Roadway buildings (18) Water stations (19) Fuel stations (20) Shops and enginehouses (31) Power transmission systems (35) Miscellaneous structures (39) Public improvements construction	30
40.3	Railroad wharves and docks: (23) Wharves and docks (24) Coal and ore wharves	20
40.5	Railroad powerplant and equipment: Electric generating equipment:	
40.51	Hydraulic.	50
40.52	Nuclear.	30

PROPOSED RULES

20511

Asset guideline classes and periods—Continued

Asset guideline class	Description of assets included	Asset guideline period (in years)
40.53	Steam.....	28
40.54	Steam, compressed air, and other powerplant equipment.....	28
41.0	Motor transport—passengers: Includes assets used in the urban and interurban commercial and contract carrying of passengers by road, except the transportation assets included in class 00.2 above.....	8
42.0	Motor transport—freight: Includes assets used in the commercial and contract carrying of freight by road, except the transportation assets included in class 00.2 above.....	8
44.0	Water transportation: Includes assets used in the commercial and contract carrying of freight and passengers by water except the transportation assets included in class 00.2 above.....	20
45.0	Air transport: Includes assets used in the commercial and contract carrying of passengers and freight by air.....	6
46.0	Pipeline transportation: Includes assets used in the private, commercial, and contract carrying of petroleum, gas, and other products by means of pipes and conveyors. The trunklines and related storage facilities of integrated petroleum and natural gas producers are included in this class ¹	22
48.0	Communication: Includes assets used in the furnishing of point-to-point communication services by wire or radio; whether intended to be received aurally or visually; and radio broadcasting and television:	
48.1	Telephone: Includes the assets identified below and which are used in the provision of commercial and contract telephonic services:	
48.11	Central office buildings: Special purpose structures intended to house central office equipment and which are classified in Federal Communications Commission Account No. 212 ¹	45
48.12	Central office equipment: Includes central office switching and related equipment classified in Federal Communications Commission Account No. 221.....	20
48.13	Station equipment: Includes such station apparatus and connections as teletypewriters, telephones, booths, and private exchanges as are classified in Federal Communications Commission Account Nos. 231, 232, and 234.....	10
48.14	Distribution plant: Includes such assets as pole lines, cable, aerial wire and underground conduits as are classified in Federal Communications Commission Account Nos. 241, 242.1, 242.2, 242.3, 242.4, 243, and 244.....	35
48.2	Radio and television broadcasting.....	6
49.0	Electric, gas, and sanitary services:	
49.1	Electric utilities: Includes assets used in the production, transmission and distribution of electricity for sale, including related land improvements, ¹ and identified as:	
49.11	Hydraulic production plant: Includes dams, flumes, canals and waterways. Also includes jet engines and other internal combustion engines used to operate auxiliary facilities for load shaving purposes or in case of emergencies.....	50
49.12	Nuclear production plant: Includes jet engines and other internal combustion engines used to operate auxiliary facilities for load shaving purposes or in case of emergencies.....	20
49.13	Steam production plant: Includes jet engines and other internal combustion engines used to operate auxiliary facilities for load shaving purposes or in case of emergencies.....	28
49.14	Transmission and distribution facilities.....	30
49.2	Gas utilities: Includes assets used in the production, transmission, and distribution of natural and manufactured gas for sale, including related land improvements ¹ and identified as:	
49.21	Distribution facilities: Including gas water heaters and gas conversion equipment installed by utility or customers' premises on a rental basis.....	35
49.22	Manufactured gas production plant.....	30
49.23	Natural gas production plant.....	14
49.24	Trunk pipelines and related storage facilities.....	22
49.3	Water utilities: Includes assets used in the gathering, treatment, and commercial distribution of water.....	50
49.4	Central steam production and distribution: Includes assets used in the production and distribution of steam for sale.....	28
50.0	Wholesale and retail trade: Includes assets used in carrying out the activities of purchasing, assembling, storing, sorting, grading, and selling of goods at both the wholesale and retail level. Also includes assets used in such activities as the operation of restaurants, cafes, coin-operated dispensing machines, and in brokering of scrap metal.....	10
70.0	Services: Includes assets used in the provision of personal services such as those offered by hotels and motels, laundry and dry cleaning establishments, beauty and barber shops, photographic studios and mortuaries. Includes assets used in the provision of professional services such as those offered by doctors, dentists, lawyers, accountants, architects, engineers, and veterinarians. Includes assets used in the provision of repair and maintenance services. Includes equipment or facilities used by cemetery organizations, news agencies, teletype wire services, plumbing contractors, frozen food lockers, research laboratories, hotels, and motels (except office furniture and fixtures).....	10
79.0	Recreation and amusement: Includes assets used in the provision of amusement or entertainment services on payment of a fee or admission charge, as in the operation of bowling alleys, billiard and pool establishments, theaters, concert halls, amusement parks, and miniature golf courses. Does not include such assets which consist primarily of specialized land improvements or structures, such as golf courses, sports stadia, racetracks, ski slopes, or buildings which house bowling alleys.....	10

¹ Includes only property which is "eligible property" as defined in section 1.167(a)-(1)(b)(2) of the Income Tax Regulations, such as certain special-purpose structures and certain research and storage facilities (but not a building and its structural components).

ARTHUR SCHOENHAUT,
Executive Secretary.

[FR Doc.74-13452 Filed 6-10-74; 8:45 am]

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WEDNESDAY, OCTOBER 3, 1974
WASHINGTON, D.C.

39 ■ Number 193

PROPOSED RULES

COST ACCOUNTING STANDARDS BOARD

[4 CFR Part 409]

DEPRECIATION OF TANGIBLE CAPITAL ASSETS

Proposed Cost Accounting Standard

Notice is hereby given of a proposed Cost Accounting Standard on the Depreciation of Tangible Capital Assets, being promulgated by the Cost Accounting Standards Board for promulgation to implement further the requirement of section 719 of the Defense Production Act of 1950, as amended, Public Law 91-379, 50 U.S.C. App. 2168. When promulgated, the Standard will be used by all relevant Federal agencies and national defense contractors and subcontractors.

A related proposal was published by the Board on June 11, 1974 (39 FR 20505). After reviewing the more than 100 responses to that publication, the Board has revised the proposal. The Board takes this opportunity to express its appreciation for the helpful suggestions and criticisms which have been furnished.

The proposal published on June 11, 1974, in part on asset guideline class lives promulgated by the Treasury Department. The Board, after carefully considering all relevant issues and the advice it has received, has determined that asset service lives for contract costing purposes should be developed on the basis of the contractor's own actual previous experi-

ence with comparable assets in similar service. The Board has therefore modified its proposal in order to place the primary reliance on records of the age of assets at the time of disposal or withdrawal from active service. The Board recognizes that such records are not now in existence for all contractors. The basic data from which such analyses can be prepared, however, are generally available. The Board has determined that a reasonable working period should be provided in which contractors can prepare the appropriate analytical records.

The proposal being published today includes a number of other modifications in the June 11 version. The Board now especially solicits comments on its proposal respecting the documentation of expected service lives. Interested persons should submit written data and views concerning the proposed Cost Accounting Standard to the Cost Accounting Standards Board, 441 G Street NW., Washington, D.C. 20548.

To be given consideration by the Board in its determination relative to final promulgation of the Cost Accounting Standard covered by this notice, written submissions must be made to arrive no later than November 4, 1974.

NOTE: All written submissions made pursuant to this notice will be made available for public inspection at the Board's office during regular business hours.

It is proposed to add Part 409 to read as follows:

Sec.	
409.10	General applicability.
409.20	Purpose.
409.30	Definitions.
409.40	Fundamental requirement.
409.50	Techniques for application.
409.60	Illustrations.
409.70	Exemptions.
409.80	Effective date.

AUTHORITY: 84 Stat. 798, Sec. 103 (50 U.S.C. App. 2168).

§ 409.10 General applicability.

This Standard shall be used by defense contractors and subcontractors under Federal contracts entered into after the effective date hereof and by all relevant Federal agencies in estimating, accumulating, and reporting costs in connection with the pricing, administration, and settlement of all negotiated prime contract and subcontract national defense procurements with the United States in excess of \$100,000, other than contracts or subcontracts where the price negotiated is based on (a) established catalog or market prices of commercial items sold in substantial quantities to the general public, or (b) prices set by law or regulation.

§ 409.20 Purpose.

(a) The purpose of this Standard is to provide criteria and guidance for assigning costs of tangible capital assets to cost accounting periods and for allocating such costs to cost objectives within such periods in an objective and consistent manner. The Standard is based on the concept that depreciation costs identified with cost accounting periods and benefiting cost objectives

within periods should be a reasonable measure of the expiration of service potential of the tangible assets subject to depreciation. Adherence to this Standard should provide a systematic and rational flow of the costs of tangible capital assets to benefited cost objectives over the expected service lives of the assets.

(b) This Standard does not cover non-wasting assets or natural resources which are subject to depletion.

§ 409.30 Definitions.

(a) The following definitions of terms which are prominent in this Standard are reprinted from Part 400 of this chapter for convenience. Other terms which are used in this Standard and are defined in Part 400 of this chapter have the meanings ascribed to them in that part unless the text demands a different definition or the definition is modified in paragraph (b) of this section:

(1) *Residual value.* The proceeds (less removal and disposal costs, if any) realized upon disposition of a tangible capital asset. It usually is measured by the net proceeds from the sale or other disposition of the asset, or its fair value if the asset is traded in on another asset. The estimated residual value is a current forecast of the residual value.

(2) *Service life.* The period of usefulness of a tangible capital asset (or group of assets) to its current owner. The period may be expressed in units of time or output. The estimated service life of a tangible capital asset (or group of assets) is a current forecast of its service life and is the period over which depreciation cost is to be assigned.

(3) *Tangible capital asset.* An asset that has physical substance, more than minimal value, and is expected to be held by an enterprise for continued use or possession beyond the current accounting period for the services it yields.

(b) The following modifications of definitions set forth in Part 400 of this chapter are applicable to this Standard: None.

§ 409.40 Fundamental requirement.

(a) The depreciable cost of a tangible capital asset (or group of assets) shall be assigned to cost accounting periods in accordance with the following criteria:

(1) The depreciable cost of a tangible capital asset shall be its capitalized cost less its estimated residual value.

(2) The estimated service life of a tangible capital asset (or group of assets) shall be used to determine the cost accounting periods to which the depreciable cost will be assigned.

(3) The method of depreciation selected for assigning the depreciable cost of a tangible capital asset (or group of assets) to the cost accounting periods representing its estimated service life shall reflect the expected consumption of services in each cost accounting period.

(4) The gain or loss which is recognized upon disposition of a tangible capital asset shall be assigned to the cost accounting period in which the disposition occurs.

PROPOSED RULES

(b) The annual depreciation cost of a tangible capital asset (or group of assets) shall be allocated to cost objectives for which it provides service in accordance with the following criteria:

(1) Depreciation cost may be charged directly to cost objectives only if such charges are made on the basis of usage and only if depreciation costs of all like assets used for similar purposes are charged in the same manner.

(2) Where tangible capital assets are part of, or function as, an organizational unit whose costs are charged to other cost objectives based on a measure of the services provided by the organizational unit, the depreciation cost of such assets shall be included as part of the cost of the organizational unit.

(3) Depreciation costs which are not allocated in accordance with paragraph (b) (1) or (2) of this section shall be included in appropriate indirect cost pools.

(4) The gain or loss which is recognized upon disposition of a tangible capital asset, where material in amount, shall be allocated in the same manner as the depreciation cost of the asset has been or would have been allocated for the cost accounting period in which the disposition occurs. Where such gain or loss is not material, the adjustment may be included in an appropriate indirect cost pool.

409.50 Techniques for application.

(a) Determination of the appropriate depreciation charges involves estimates of both of service life and of the likely consumption of services in the respective cost accounting periods included in such life. Many of the same factors are to be considered in selecting service life estimates and in selecting depreciation methods. Both physical and economic factors should be considered. The following are the factors which may be taken into account: quantity and quality of expected output, and the timing thereof; costs of repair and maintenance, and the timing thereof; potential standby usefulness; and technical or economic obsolescence of the asset (or group of assets), or of the product or service it is involved in producing.

(b) Depreciation of a tangible capital asset shall begin when the asset and any others on which its effective use depends are ready for use in a normal or acceptable fashion. However, where partial utilization of a tangible capital asset is identified with a specific operation, depreciation shall commence on any portion of the asset which is substantially completed and used for that operation. Depreciable spare parts which are required for the operation of a tangible capital asset shall be accounted for over the service life of the asset.

(c) A consistent policy shall be followed in determining the depreciable cost to be assigned to the beginning and ending cost accounting periods of asset use. The policy may provide for any reasonable starting and ending dates in computing the first and last year depreciable cost.

(d) Tangible capital assets may be accounted for by treating each individual asset as an accounting unit, or by combining two or more assets as a single accounting unit, provided such treatment is consistently applied over the service life of the asset or group of assets.

(e) Estimated service lives initially established for tangible capital assets (or groups of assets) shall be reasonable approximations of their expected actual periods of usefulness, considering the factors mentioned in paragraph (a) of this section.

(1) The expected actual periods of usefulness shall be those periods which are supported by records of either past retirement or withdrawal from active use (and retention for standby or incidental use) for like assets (or groups of assets) used in similar circumstances appropriately modified for specifically identified factors expected to influence future lives. The factors which can be used to modify past experience include:

(i) Changes in expected physical usefulness from that which has been experienced such as changes in the quantity and quality of expected output.

(ii) Changes in expected economic usefulness, such as changes in expected technical or economic obsolescence of the asset (or group of assets), or of the product or service produced.

(2) Supporting records shall be maintained which are adequate to show the age at withdrawal from active use (and retention for standby or incidental use) or at retirement for a representative sample of such assets for each significant category. Whether assets are accounted for individually or by groups, the basis for estimating service life shall be predicated on supporting records for either individual assets or any reasonable grouping of assets as long as that basis is consistently used. The burden shall be on the contractor to justify estimated service lives which are shorter than such experienced lives.

(3) The records required in paragraph (d) (1) and (2) of this section, if not available on the date when the requirements of this Standard must first be followed by a contractor, shall be developed and be available following the second fiscal year after that date and thereafter as a basis for subsequent estimates of service lives. Estimated service lives used for financial accounting purposes if not unreasonable under the criteria specified in (d) (1) of this section, shall be used until adequate supporting records are available.

(4) Estimated service lives for tangible capital assets for which the contractor has no prior experience for similar assets shall be established based on a projection of the expected actual period of usefulness, but shall not be less than asset guideline periods established for asset guideline classes under the Revenue Procedure 72-10 published by the Internal Revenue Service, and any additions, supplements or revisions thereto, which are in effect as of the first day of the cost accounting period in which the assets are acquired.

(f) The contracting parties may agree on the estimated service life of individual tangible capital assets where the special purpose for which the equipment was acquired or other special circumstances warrant a shorter estimated service life than the life determined in accordance with paragraph (d) of this section.

(g) (1) The method of depreciation used for financial accounting purposes shall be used for contract costing unless (i) such method does not reasonably reflect the expected consumption of services for the tangible capital asset (or group of assets) to which applied, or (ii) the method is unacceptable for Federal income tax purposes. If the contractor's method of depreciation used for financial accounting purposes does not reasonably reflect the expected consumption of services or is unacceptable for Federal income tax purposes, he shall establish a method of depreciation for contract costing which meets these criteria, in accordance with paragraph (g) (3) of this section.

(2) After the date of initial applicability of this Standard, selection of methods of depreciation for newly acquired tangible capital assets, which are different than the methods currently being used for like assets in similar circumstances, shall be supported by projections of the expected consumption of services of those assets (or groups of assets) to which the different methods of depreciation shall apply. Support in accordance with paragraph (g) (3) of this section shall be based on the expected consumption of services of either individual assets or any reasonable grouping of assets as long as the basis selected for grouping assets is consistently used.

(3) The expected consumption of asset services over the estimated service life of a tangible capital asset (or group of assets) is influenced by the factors mentioned in paragraph (a) of this section which affect either potential activity or potential output of the asset (or group of assets). These factors may be measured by the expected activity or the expected physical output of the assets, as for example: hours of operation, number of operations performed, number of units produced, or number of miles traveled. An acceptable surrogate for expected activity or output might be a monetary measure of that activity or output such as estimated labor dollars, total cost incurred or total revenues generated by use of tangible capital assets to the extent that such monetary measures can reasonably be related to the usage of specific tangible capital assets (or groups of assets). In the absence of reliable data for the measurement or estimation of the consumption of asset services by the techniques mentioned, the expected consumption of services may be represented by the passage of time. The appropriate method of depreciation should be selected as follows:

(1) An accelerated method of depreciation is appropriate where the expected consumption of asset services is significantly greater in early years of asset life.

PROPOSED RULES

the straight line method of depreciation is appropriate where the consumption of asset services is level over the service life of (or group of assets).

The estimated service life and method of depreciation to be used for an asset or complement of low-cost equipment shall be based on the expected consumption of services over the expected life of the complement as a whole and not be based on the individual assets which form the complement.

Estimated residual values shall be determined for all tangible capital assets (or groups of assets). For tangible personal property, only estimated residual values which exceed ten percent of the undepreciated cost of the asset (or group of assets) need be used in establishing depreciation costs. Where the declining balance method of depreciation or the class depreciation range system is used, the residual value need not be determined from capitalized cost to determine depreciable costs. No depreciation shall be charged which would significantly reduce book value of a tangible asset (or group of assets) below its estimated residual value.

Estimates of service life, consumption of services, and residual value shall be reexamined for tangible capital assets (or groups of assets) whenever circumstances change significantly. Where changes are made to the estimated service life, residual value, or method of depreciation during the life of a tangible asset, the remaining depreciable cost accounting purposes shall be determined to the undepreciated cost of the asset and shall be assigned only to the accounting period in which the change is made and to subsequent periods.

Gains and losses on disposition of tangible capital assets shall be computed as adjustments of depreciation previously recognized and shall be included in the cost accounting period in which disposition occurs. The gain or loss on an asset disposed of is the difference between the net amount realized and its undepreciated balance. However, the gain or loss recognized for contract costing purposes shall be limited to the difference between the original acquisition cost of the asset and its undepreciated balance. Gains and losses on the disposition of tangible capital assets shall not be determined where: (i) Assets are grouped and gains and losses are processed through the accumulated depreciation account; (ii) the asset is given in exchange as part of the purchase price of another asset and the gain or loss is included in computing the depreciable cost of the new asset; or (iii) the disposition is from an involuntary conversion and the asset is replaced by a similar asset. In the last case the gain or loss shall be included in computing the depreciable cost of the new asset.

The contracting parties may agree to the treatment of gains and losses arising from mass or extraordinary dispos-

(4) Gains and losses on disposition of tangible capital assets transferred in other than an arms-length transaction and subsequently disposed of within 12 months from the date of transfer shall be assigned to the transferor.

(l) Where, in accordance with Section 409.40(b)(1), the depreciation costs of like tangible capital assets used for similar purposes are directly charged to cost objectives on the basis of usage, average charging rate shall be established for such assets. Any variances between total depreciation cost charged to cost objectives and total depreciation cost for the cost accounting period shall be accounted for in accordance with the contractor's established practice for handling such variances.

(m) Practices for determining depreciation methods, estimated service lives and estimated residual values need not be changed for assets acquired prior to compliance with this Standard if otherwise acceptable under applicable procurement regulations. However, any such changes must conform to the criteria established in this Standard and may be effected on a prospective basis to cover the undepreciated balance of cost by agreement between the contracting parties pursuant to negotiation under (a) (4)(B) of the Contract Clause set out at § 331.50 of the Board's regulations (48 CFR 331.50).

§ 409.60 Illustrations.

The following examples are illustrative of the provisions of this Standard.

(a) X, Y, and Z companies purchase identical milling machines to be used for similar purposes. Industry data indicates that for the purpose for which the machines will be used the milling machines should have an estimated service life of 12 years.

Company X estimates service life for tangible capital assets on an individual basis. Its experience with similar machines is that the average replacement period is 14 years. Under the provisions of the Standard, Company X shall use the estimated service life of 14 years for the milling machine unless it can demonstrate changed circumstances or new circumstances to support a different estimate.

Company Y estimates service life for tangible capital assets by grouping assets of the same general kind and with similar service lives. Accordingly, all machine tools are accounted for as a single group. The average replacement life for machine tools for Company Y is 12 years. In accordance with the provisions of the Standard, Company Y shall use a life of 12 years for the acquisition unless it can support a different estimate for the entire group.

Company Z estimates service life for tangible capital assets by grouping assets according to use without regard to service lives. Accordingly, all machinery and equipment is accounted for as a single group. The average replacement life for machinery and equipment in Company Z is ten years. In accordance with the provisions of the Standard, Company Z shall use an estimated service life of ten years for the acquisition unless it can support a different estimate for the entire group.

(b) Company X desires to charge depreciation of the milling machine described in (a) directly to final cost objectives. Usage of the milling machine can be measured readily

based on hours of operation. Contractor may charge depreciation cost directly on a unit of time basis provided he uses an average depreciation charge for all like milling machines in the machine shop and charges depreciation for all like milling machines directly to final cost objectives.

(c) A contractor acquires, and capitalizes as an asset accountability unit, a new lathe. The estimated service life is ten years for the lathe. He acquires, and capitalizes as an original complement of low-cost equipment related to the lathe, a collection of tool holders, chucks, indexing heads, wrenches, and the like. Replacements of these items will be made as needed and are expected to be expensed as acquired. The complement should be depreciated over an estimated service life of ten years.

(d) A contractor acquires a test facility with an estimated physical life of ten years, to be used on contracts for a new program. The test facility was acquired for \$5 million. It is expected that the program will be completed in six years and the test facility acquired will not be required for other products of the contractor. Although the facility will last ten years, the contracting parties may agree in advance to depreciate the equipment over six years.

(e) Contractor acquires a building by donation from its local Government. The building had been purchased new by another company and subsequently acquired by the local Government. Contractor capitalizes the building at its fair value. Under the Standard the depreciable cost of the asset based on that value, if otherwise allowable, may be accounted for over its estimated service life and allocated to cost objectives in accordance with the contractor's cost allocation practices.

(f) A contractor has an established practice of regular reviews of service life estimates for significant individual assets. A major item of equipment which was acquired prior to the applicability of this Standard was estimated, at acquisition, to have a service life of twelve years. The first scheduled review of the service life estimate takes place after two years of service, during which time the Standard has become applicable to new asset acquisitions. The review results in a well-supported determination to shorten the estimated service life to a total of seven years. The remaining annual depreciation charges based on this particular asset will be appropriately increased. This change is not a change of practice, but a correction of a numeric estimate. The requirement of Section 409.60(1) does not apply, and no action pursuant to section (a) (4)(B) of the CAS clause is required.

§ 409.70 Exemption.

This Standard shall not apply where compensation for the use of tangible capital assets is based on use allowances as provided for by the provisions of Federal Management Circular 73-8 (Cost Principles for Educational Institutions) and Federal Management Circular 74-4 (Principles for Determining Costs Applicable to Grants and Contracts with State and Local Governments).

§ 409.80 Effective date.

(a) The effective date of this Cost Accounting Standard is [Reserved].

(b) This Cost Accounting Standard shall be followed by each contractor for all tangible capital assets acquired on or after the start of his next fiscal year beginning after the receipt of a contract to which this Cost Accounting Standard is applicable.

ARTHUR SCHOENHAUT,
Executive Secretary.

rules and regulations

This section of the FEDERAL REGISTER contains regulatory documents having general applicability and legal effect most of which are keyed to and codified in the Code of Federal Regulations, which is published under 50 titles pursuant to 44 U.S.C. 1510.

The Code of Federal Regulations is sold by the Superintendent of Documents. Prices of new books are listed in the first FEDERAL REGISTER issue of each month.

Title 4—Accounts

CHAPTER III—COST ACCOUNTING STANDARDS BOARD

SUBCHAPTER G—COST ACCOUNTING STANDARDS

PART 400—DEFINITIONS

Miscellaneous Amendments

Section 400.1(a) is amended by inserting the following definitions alphabetically.

400.1 Definitions.

(a) • • •

Residual value. The proceeds (less removal and disposal costs, if any, realized upon disposition of a tangible capital asset. It usually is measured by the net proceeds from the sale or other disposition of the asset, or its fair value if the asset is traded in on another asset. The estimated residual value is a current forecast of the residual value.

• • •

Service life. The period of usefulness of a tangible capital asset (or group of assets) to its current owner. The period may be expressed in units of time or output. The estimated service life of a tangible capital asset (or group of assets) is a current forecast of its service life and is the period over which depreciation cost is to be assigned.

94 Stat. 796, sec. 103 (50 U.S.C. App. 2168)

ARTHUR SCHOENHAUT,
Executive Secretary.

[FR Doc. 75-2625 Filed 1-28-75; 8:45 am]

PART 409—COST ACCOUNTING STANDARD

Depreciation of Tangible Capital Assets

The Standard on Depreciation of Tangible Capital Assets being published today is one of a series being promulgated by the Cost Accounting Standards Board (CASB) pursuant to sec. 719 of the Defense Production Act of 1950, as amended (Pub. L. 91-379, 50 U.S.C. App. 2168), which provides for the development of Cost Accounting Standards to be used in connection with negotiated national defense contracts.

On February 27, 1973, the Board promulgated a Standard on Capitalization of Tangible Assets. At that time the Board described its work to date in the area of fixed asset accounting including studies of practices used for both capitalization and depreciation. The responses to an issues paper and questionnaire which were used in the development of the capitalization standard were also useful in the de-

velopment of the Standard being promulgated today. A preliminary draft of the Cost Accounting Standard on Depreciation of Tangible Capital Assets was widely distributed in March 1973 for informal comment by interested parties. The Board's further consideration of the issues related to depreciation has been significantly enhanced by the responses received from well over 100 respondents to that informal proposal.

The Board's research into fixed asset accounting practices included a survey of 107 profit centers selected to be representative of the diversity of firms to which Cost Accounting Standards apply. Reports on their fixed asset accounting practices and statistical information for a five-year period were received and analyzed. The Board was assisted in its deliberation by information available from the 1960 Treasury Department Survey which provided the data base for the "Asset Guideline Lives" used in Revenue Procedure 62-21 and data developed in an accounting research study performed for the American Institute of Certified Public Accountants.

A proposed Cost Accounting Standard dealing with depreciation was published by the Board on June 11, 1974 (39 FR 20505). After reviewing the responses to that publication, the Board revised its proposal. The revised version was published in the FEDERAL REGISTER for October 3, 1974 (39 FR 35678). The Board supplemented both FEDERAL REGISTER publications by sending copies of the FEDERAL REGISTER material directly to organizations and individuals who were expected to be interested. The Board received almost 200 responses to the June 11 and the October 3 proposals. Comments were received from individual companies, Government agencies, professional associations, industry associations, public accounting firms, universities, and individuals. All of these comments have been carefully considered by the Board. In addition, the Board invited representatives of Government agencies, professional accounting and industry associations, and defense contractors to attend Board meetings and discuss their views on the significant issues concerning depreciation practices in Government contract costing. The Board takes this opportunity to express its appreciation for the helpful suggestions and criticisms which have been furnished. The comments furnished by organizations and individuals have resulted in many changes in the Standard.

The comments below summarize the major issues discussed by respondents in connection with both preliminary publications. They explain the major changes

which have been made since the June 11 proposal.

(1) **Economic Impact of the Standard.** Many of the comments on the June 11 and October 3 proposals were concerned with the economic impact of the Standard. They cited such concerns as delays in cash flow, impact of inflation, incentives for modernization, and administrative cost of additional recordkeeping requirements.

The Board's consideration of each of these primary concerns is dealt with in detail in other sections of these prefatory comments. The Board has recognized the potential overall impact of the Standard as expressed in the comments received and has endeavored to establish the needed guidance on depreciation accounting with as little disruption as possible to contractors and current contractual relationships.

The Standard provides for a phasing in of requirements over a period of time so that the principal impact of the Standard will be a number of years in the future. The Standard applies only to assets acquired by a contractor after the beginning of its next fiscal year after receipt of a CAS covered contract. If the Standard were to become effective six months after submission to Congress, application of any provisions of the Standard to any newly acquired assets would be delayed more than six months from date of promulgation and for most contractors at least 12 months.

The Standard provides for a two-year period to develop records on past experience to support estimates of service lives. The same period could be used to develop any necessary changes in accounting for fixed asset lives. The two-year period begins after required compliance with the Standard, and, therefore, most contractors would have at least three years in which to apply the recordkeeping provisions for newly acquired fixed assets.

For those contractors who use the two-year period to develop new estimated service lives, the effect of the use of those new estimates would begin on assets acquired in the fourth year after submission of this Standard to Congress. In the fourth year and the next several years thereafter the impact of changes in cash flow because of changes in service life estimates would be minimal, since the difference in cash flow each year is the difference between depreciation amounts under the old and new estimates of service life for the newly acquired assets. The total impact on cash flow of changes in estimates of service life would not occur until the full cycle of asset replacement is completed. In addition, the impact of

RULES AND REGULATIONS

accounting for gain or loss begin to take place where acquired after compliance standard would be sold or disposed of and such impact years in the future.

Board's opinion that the economic and administrative Standard is minimal and one, provide for a more apportionment of cost accounting as distinct and apart from determinations for defense and pricing actions.

for a Standard. The accounting has established general govern depreciation across broad principles require practices be systematic. Accountants consistent at the estimates of service or depreciation should be use broad goals are almost agreed upon.

Commentators suggested that should not promulgate anything with depreciation applicable principles have been used as a part of generally accounting principles. These commentators also argue that promulgations have allowed only on depreciation practices acceptable for other purposes. They believe that contract costing due to rely entirely upon current practices used for Federal and for financial reporting pursuant to the current regulations. The Board believes that depreciation charges on income tax and financial practices do not necessarily represent the services provided on contracts.

Mathematical formulas have been used to represent the typical consumption of services over assets. Certain of these methods have been incorporated in the Internal Revenue Code for Federal income tax. These same methods have, in fact, been accepted as systematic and therefore within the scope of accepted accounting principles. The Board finds that there has been no choice as to depreciation applicable for contract costing. Adequate criteria for the choices

Army Department and Income Service have established a determination of estimated useful service. These guidelines are to be based on observed experience, but lives shorter than those experienced were estimated that most companies would under-actual asset utilization the permitted tax lives. Taxatives for an industry are, at best, good representations of actual asset utilization periods for individual contractors within

The Board's research has indicated that the asset lives and depreciation methods selected by defense contractors under existing regulations may result in an unduly accelerated allocation of depreciation to the final cost objectives of earlier cost accounting periods in the life of a tangible capital asset. Contractor representatives have expressed the view that the choices are typically appropriate in view of the uncertainties of Government contracting. These uncertainties, however, have not precluded utilization of assets well beyond the short estimated service lives based on the IRS guideline periods. Other commentators were concerned that any Standard which would restrict cash flow would adversely impact profits. The Board has determined that a Cost Accounting Standard is needed to provide more assurance that depreciation costs identified with performance of negotiated defense contracts are appropriately measured. Consideration of risk and capital investment in the determination of the adequacy of profits is a policy question for the procuring agencies and not a cost accounting problem.

(3) **Method of Depreciation.** Many of the comments received on depreciation method center on whether accelerated methods or straightline methods are more appropriate for contract costing purposes. The Board, however, believes that no particular method is necessarily appropriate for all contract cost accounting situations. The Board is establishing criteria by which the method or methods appropriate in the specific situation can be determined.

Both the June 11 proposal and the October 3 revision provided that the method selected "shall reflect the expected consumption of services in each accounting period." This basic goal is generally recognized as appropriate. Commentators have raised questions relating to the practical aspects of compliance with the basic goal. What kind of evidence should be available to support a selection of a depreciation method? In the absence of authoritative criteria for selection, contractors have had no need to support their choices, nor have they accumulated much experience in collecting evidence relevant to the consumption of services. Thus a requirement for support of accelerated methods is seen by some as a prohibition of the use of such methods. However, the proposals made no distinction between an accelerated method or the straight-line method of depreciation in determining the quantity and quality of supporting evidence. The Board's proposals included descriptions of the techniques which should be used to determine appropriate methods for depreciation. The Board recognized the difficulty which might be experienced by contractors attempting to demonstrate the appropriateness of their choices. The Board's proposals included, therefore, the provision that the method of depreciation used for financial accounting purposes should generally be acceptable for contract costing.

Representatives of the accounting profession pointed out that there is strong economic motivation to choose rapid depreciation write-off techniques where cost is the basis for pricing and reimbursement, as in the defense contracting environment. They say that this same motivation may not apply to external financial accounting for the same companies. Accordingly, they expect that any Cost Accounting Standard which required that, in order to use a technique for contract costing, a company must use the same technique for financial accounting, might create an incentive to modify financial accounting practices solely for the purpose of obtaining an advantage in contract pricing. Because of these considerations the Board would prefer not to base its criteria primarily on practices used for external financial reporting.

Most commentators have asserted that the depreciation methods now in use for external reporting purposes are appropriate methods for contract costing, too. The Board believes that this is generally true, and it further recognizes that a requirement to change to a particular depreciation method might result in significant cost to many contractors. In the belief that the methods selected as appropriate for financial accounting are usually intended to approximate the actual consumption of services, the Board has provided for continuance of those methods where this is a reasonable assumption. Therefore, in the October 3 proposal the word "reasonably" was used to modify the requirement that the method of depreciation reflect the expected consumption of services; this provision is continued in the Standard being promulgated today. In those few cases where existing methods used for financial accounting purposes are obviously poor representations of the expected pattern of consumption, and in any case when the contractor proposes to change methods, the choice should be made on the basis of a reasonable expectation of the future pattern of consumption of services in accordance with the criteria provided in this Standard.

It has been asserted that some assets purchased for Government contract purposes are used on an intermittent basis with periods of use and periods of non-use following one another in a pattern that fits neither the classical accelerated nor straight-line models and that does not conform with the active-standby dichotomy. "The pattern of consumption of services" for such an asset is difficult to determine either prospectively or historically and is not necessarily dependent solely on use.

In circumstances such as the foregoing, it is not the intent of the Board to introduce uncertainty into contract negotiation and settlement by encouraging challenge of contractors' depreciation methods. If the method selected is also used for external financial reporting and is acceptable for income tax purposes, the Board's expectation is that it will be accepted.

(4) **Service Lives.** Depreciation is to be charged during the period of estimated usefulness of a tangible capital asset. Some commentators have expressed concern lest the Board not give appropriate recognition to the importance of possible obsolescence in estimating the period of usefulness. The Board recognizes that for many contractors the likelihood of obsolescence is an important factor in estimating the period of usefulness, and has so provided in the Standard.

The June 11 proposal provided that estimated service lives used for financial accounting, where such lives reasonably represented expected usefulness, were to be used for contract costing. However, several commentators expressed concern that the requirement to use financial accounting lives would continue to influence the motivation of some financial reporting entities to select for financial accounting purposes those practices which would be most advantageous for other purposes. The Board's research showed that defense contractors often used minimum lives permitted for tax purposes for financial accounting rather than lives based on actual experience. Therefore, the October 3 revised proposal placed the primary reliance for estimation of service lives on records of the age of assets at disposal or withdrawal from active use. The proposal further provided that the historical data would be a baseline for estimates of useful life which could be adjusted based on expected changes in physical or economic lives.

Contractors commenting on the October 3 proposal pointed out that they have not been required to have records which would show the retention periods of assets. Therefore, while most contractors have the basic information from which they could determine typical asset retention periods, few contractors have made analyses or summaries of the information available. Furthermore, they stated that contractors did not have records reflecting the withdrawal of assets from active use. The contractors expressed the opinion that to develop such records would be costly. The Standard has been modified to provide that the development of records of asset withdrawal from active use be at the option of the contractor; however, it should be pointed out that such records could be additional support to reduce historical asset lives.

The Standard also provides a two-year period for the development of analyses of historical asset lives. The Board believes the two-year period should provide adequate working time to develop such analyses. The Standard does not prescribe the nature of the analyses which should be performed, nor does it prescribe the number of prior years to be analyzed or the extent of support necessary; it recognizes that the adequacy of records depends upon individual needs and circumstances. The Board believes that most contractors have adequate records on asset retention. Estimates of experienced lives can be developed from these existing records on the basis of samples. Statistical sampling from existing records or judgmental samples with

analyses to support a large portion of the dollar amounts involved may allow reasonable estimates in many cases with a relatively small sample. The Board expects that contractors will develop sufficient data to support the lives used and that procurement agencies will enforce this requirement in a reasonable manner.

Several commentators criticized the October 3 proposal on the basis that it would engender disagreements about the impact of the physical and economic factors recognized as appropriate to consider in relating actual past experience to expected future usefulness. The Board, in effect, places a burden of proof on the contractor who proposes that expected changes in physical and economic factors should be used to justify any specific reduction in estimate from that supported by his records.

The Board recognizes that many contractors would still be concerned not only about the concept of developing service life estimates from records of actual use but also about the risk of disagreements related to the appropriate adjustments to be made in relating actual past experience to expected future usefulness. The Board believes that procurement agencies generally recognize the significance of the physical and economic factors listed in the Standard. The Board encourages the procurement agencies to provide written guidance for use by field personnel, with the goal of making an effective transition from amortization periods derived from tax regulations to those based on reasonable estimates of actual useful service. The staff of the Board will participate, if requested, in the development of appropriate guidance to field personnel.

(5) **Reliance on Internal Revenue Service.** Many commentators, throughout the Board's research process in the development of this Standard, have suggested that the Board should rely on the experience accumulated by the Internal Revenue Service. Under this general approach the Board would be expected to concede that there is so much uncertainty about depreciation that auditors should not ask for support of estimates from individual contractors, but should accept for contract purposes the operation of a broad band of averages which have been developed for other purposes but which do deal with the same depreciation practices. The Board has recognized that contract costing often deals with the same expenditures and the same problems of allocation to time periods as are of interest in income tax accounting. Tax regulations, however, are intended to achieve a variety of social goals quite foreign to the purposes of contract costing. In this regard, the "Asset Guideline Periods," first established in 1962, were based on write-off periods substantially shorter than actual average experienced lives and these periods were subject to further reduction under the "Asset Depreciation Range System" in 1971.

In addition, tax assessment and collection are continuous so that, except for differences in tax rates, shifts of in-

come or expense from one year to another generally do not have a significant effect on total tax paid over a period of time. However, similar shifts of cost from one year to another could have a decided impact on the costs chargeable to the Government on contracts with it.

The Board has considered very seriously the issues which are related to its decision not to rely solely or necessarily on I.R.S. regulations with respect to depreciation. Early versions of this Standard placed some reliance on I.R.S. regulations. However, spokesmen for contractors criticized the specific techniques used, including the difficulty of using lives shorter than those permitted by I.R.S., while representatives of the accounting profession tended to encourage less reliance on I.R.S. in any way. The Standard now being promulgated continues to make limited use of I.R.S. regulations for estimating service lives where more pertinent information is not available.

(6) **Beginning and Ending Periods.** Several commentators expressed concern that the proposed Standard (both the June 11 and October 3 versions, which were alike in this regard) would not permit accounting conventions to be used for the beginning and ending periods of asset use. The Standard permits the application of conventions (such as the half-year convention) where reasonable in the circumstances and consistently followed. The Board sees no need for change in this respect.

(7) **Asset Groups.** Some commentators felt that the June 11 proposal implied a desire by the Board for depreciation accounting on an asset-by-asset basis. The Board does not intend to force any changes in decisions reasonably made with respect to accounting in terms of groups or of individual assets. Since depreciation is largely based on the application of estimates, when groups are used the estimates are intended to represent the average or typical experience for all individual assets in the group. The October 3 proposal was modified to make clear the Board's acceptance of grouping practices in accounting for assets and in determining applicable depreciation lives and methods. The Standard permits accounting for assets either individually or in any reasonable grouping, provided that the accounting treatment is consistently applied.

(8) **Use Rates.** In its June 11 proposal, the Board pointed out that the proposed Standard is expected to be applied by contractors in situations where depreciation cost is a factor in determining equitable charging rates to be used as a basis for contract costing. For example, the development of rate schedules for construction plant and equipment and ownership costs for comparison to lease or rental costs would be accomplished in conformance with the requirements of the proposed Standard. The proposed Standard also would have been required to be used by educational institutions in determining amounts to be compensated for use of buildings, capital improvements and equipment.

University commentators stated that colleges and universities recognize depreciation in their accounting records. The placement of capital assets is often handled by special appropriations or by requests and other contributions. Federal Management Circular 73-8 has provided for use allowances as recognition of the employment of capital assets on contract work.

A number of commentators have pointed out that many educational institutions prefer the current use allowance system even though they recognize that conventional depreciation accounting would result in higher recognized costs. The most important reason stated is that the administrative cost and effort involved in establishing depreciation accounts would be significant.

These comments have been persuasive. Universities who choose not to incur the additional administrative expense could have an acceptable alternative basis for reimbursement for the use of tangible capital assets. The Standard has been modified to provide that it does not apply where FMC 73-8 use allowances are a part of contract costs. However, the Standard does apply whenever depreciation accounting is used by an educational institution for a covered contract.

(9) Residual Value. Several commentators expressed concern that the proposed Standard defined "residual value" even though the only available numeric value during the service life of an asset is that for "estimated residual value." The wording in the definition has been modified to clarify the Board's recognition of this point.

The proposal included permission to disregard minor residual values (those under ten percent of capitalized cost) in determining a schedule of depreciation charges—until the net book value approaches the residual value. Some commentators suggested that residual values be ignored completely. Others suggested that they be permitted to depreciate beyond actual residual values because of practicality considerations.

The Board has several times expressed its belief that the administration of Cost Accounting Standards should be reasonable and not seek to deal with insignificant amounts of cost. (See, for example, the March 1973 "Statement of Operating Policies, Procedures and Objectives.") Except for depreciable real property, there would usually be little improvement in the accuracy of cost measurements if estimates of minor residual values were explicitly considered in establishing amounts to be depreciated. However, the Board continues to believe that the magnitude of the expected residual value should be considered for each asset or for each group. If the estimate is greater than ten percent of capitalized cost or if it is applicable to depreciable real property it should be deducted from the capitalized amount in determining the depreciable cost. The Standard has been modified to clarify the applicability of the ten percent materiality rule to personal property only.

The June 11 proposal prohibited the charging of any depreciation amount which would reduce book value below residual value. Where fixed asset accounting is by groups, this provision was not intended to require separate identification of the book values and residual values of individual assets. For individual assets, where actual residual values are not material, the Board does not intend that such immaterial amounts be identified. The criterion of materiality applies to all Board promulgations, and therefore, the Board does not believe it necessary to restate it in every circumstance.

(10) Gain or Loss. Both the June 11 and October 3 proposals required that gain or loss on disposition of tangible capital assets be assigned to the cost accounting period in which disposition occurs. A number of commentators suggested that gain or loss on disposition, as an adjustment of depreciation previously recognized, should be assigned to the cost accounting periods and cost objectives to which the depreciation had been charged. This suggestion is conceptually sound but impractical to apply. The records necessary to identify prior depreciation charges would be difficult to maintain. In addition, where losses occur on disposition, application of the cost to prior periods and cost objectives would often be precluded because applicable contracts may have been closed or funding for the additional cost may not be available. Accordingly, the Board believes it would be fair to both contractors and the Government to adjust for gain or loss in the current cost accounting period.

Commentators suggested that if adjustment is to be made in the current cost accounting period, it should be made to some general indirect cost pool so that adjustments could be absorbed by all work of the period. The Board believes, however, that—to the extent practical—adjustments should be made to the same cost accounts to which the depreciation cost of the asset had been or would have been allocated in that cost accounting period. To the extent that depreciation cost is assigned to individual departments or cost centers, so should the adjustments to depreciation resulting from the disposition of assets.

Commentators expressed the opinion that gains on disposition of assets in today's economy are often the result of inflation and not adjustments of depreciation expense. The Board recognizes that assets held for long periods, especially real property, may be disposed of for amounts in excess of net book value. The gain may have been caused by any of several factors, including the rising general price level. In some situations it may be arguable that the gains should not be considered as corrections to previous depreciation charges. The Board and others in the accounting profession are examining new techniques to deal with accounting for inflation. However, accounting for cost on an historical basis is now generally accepted and until the new techniques are developed and accepted, the Board does not see a practical

way to differentiate those gains deemed by some to be based on inflation from those resulting from excessive depreciation charges. Because the Standard applies only to assets acquired after the date when the Standard must first be followed by a contractor, the impact of the Standard on recognition of gains or losses in some years in the future. At that time it is expected that guidance will be available on the appropriate treatment for price-level changes reflected in gains or losses from disposition of fixed assets.

Current procurement regulations of Government agencies are not consistent in their provisions for gains and losses. A number of commentators were apparently unaware of this diversity; they encouraged the Board to leave the present situation alone. The existing procurement regulations have been carefully considered and the Board believes that contract cost determinations will be improved by more uniform treatment of such gains and losses.

Several commentators were concerned that the treatment of gain or loss from involuntary conversion, while in agreement with the Federal income tax treatment, differed from the generally accepted financial accounting practice. The Standard has been changed to permit the contractor to use either basis in accounting for involuntary conversions.

(11) Original Complements. The Standard on Capitalization of Tangible Assets defined and required the capitalization of original complements of low-cost equipment. There has been some controversy over the appropriate write-off technique for such capitalized amounts. Informal staff proposals to require amortization over the life of the complement, or of the asset for which it has been required, were challenged by contractors as being unreasonable. The Board recognized the intensity of this feeling and the June 11 proposal included a provision developed specifically to assign such costs among cost accounting periods.

Some commentators pointed out that the June 11 proposal for amortization of original complements would have required a practice which is not at all common and would be difficult to implement.

The provisions of the proposal were modified for the October 3 version to require simply that an original complement be treated as a tangible capital asset, and that the basic requirements of the Standard be applied to it. Thus, the costs of each original complement would be amortized over its period of expected usefulness, and in accordance with its pattern of expected usage, either separately or as a part of an appropriate group. Comments received on the October 3 version have suggested some misunderstanding of the principle involved. Some additional language has been added to the illustration on depreciation for original complements in § 409.60(c) to further clarify the principle that an original complement is a single asset and not a group of individual items.

(12) Retroactive Impact of Changes. The Board called attention, in the

lication, to the conflict between aspects of Opinion No. 20 stating Principles Board and not proposed, in § 409.50(1), made in depreciation accounting the service life of an position proposed by the of making changes applicatively only, was approved by se who commented on the y few commentators asked ard agree with the financial principle and insist upon impact, even though this re reopening settled con-board was not convinced that m in costing accuracy m reopening settled con-merit the obvious adminis-nvenience involved. The therefore, not changed in

ce Center Costs. The June 11 d that when depreciable rt of an organizational unit re charged to users on the ce, the depreciation cost of ould be included as part of the organizational unit. f commentators expressed t the Standard might be require the assignment of eciation separately to each al unit which occupied a n though the applicable eciation might be only a part of the total organiza-t. If an organizational unit tire building, and the dest of that building is signifi- a practicably be identified, epreciation cost should be cost of the organizational nment to cost objectives on service. If, however, the total cost of a building, which is number of cost objectives, for as indirect cost and on that basis would not stort the measurement of benefiting cost objective, ould be served by insisting ganizational unit receive a e for building depreciation. nmentators were concerned agraph on service centers t the base or bases used for vice center costs to other es. Nothing in that para-ed to limit or prescribe the s used for charging service

of Capital. Many commen- pointed out that the re- be imposed by the Stand- ult, on assets acquired after date, in less depreciation rlier years of asset life. The wdown in recovery of funds pointed out, have an adverse he profitability of defense any of the comments seek id write-off as a partial off- osts of capital actually in- ot directly recognized in ing. se of this Standard is to pro- measurement and allocation

of depreciation cost. Accounting practices used for these functions should be justified on the basis of their effectiveness for such measurement and allocation. They should not be justified on the basis of problems identified with other aspects (e.g., profitability) of defense contracts.

The Board has no authority to extend itself into the area of profitability of defense contracts. This is a matter for the procuring agencies. In this regard, current procurement regulations provide guidance with respect to negotiating proposed profits; this guidance includes some implicit recognition of the cost of capital. The Board believes that accounting for the costs of capital and determining equitable measures of profit are issues separate from depreciation accounting and these issues cannot be resolved effectively by adoption of any particular depreciation practices.

(15) Modernization and Public Policy. Many commentators have pointed out, throughout the process of developing this Standard, that no Cost Accounting Standard should be adopted if it would interfere with public policy to encourage investment in facilities which might provide a more modern, more effective industrial mobilization base. The Board favors appropriate improvements in the physical facilities used in performance of negotiated defense contracts; its purpose however does not include such public policy decisions as the introduction or continuation of incentives to encourage investment in certain classes of assets. This Standard is being promulgated for the purpose of improving the measurement and allocation of depreciation on acquired assets. The Board does not believe that this purpose is inconsistent with or a deterrent to effective plant modernization.

(16) Inflation Accounting. Some commentators were concerned with the effect of inflation in depreciation accounting. They suggested that this Cost Accounting Standard should provide for the use of replacement cost or current value rather than historical cost as the basis for determining depreciable amounts. Present Government procurement regulations as well as financial and tax accounting are based on historical costs. Current inflationary trends, however, suggest that more attention should be given to the impact of inflation on established accounting concepts.

The Financial Accounting Standards Board (FASB) is considering this subject. The FASB issued an Exposure Draft on "Financial Reporting in Units of General Purchasing Power" on December 31, 1974. The CASB is also studying the subject.

The cost impact of this Standard for most contractors is some years in the future. The Standard is required to be followed by contractors at the start of their next fiscal year after receipt of a covered contract requiring compliance with this Standard. The Standard provides for a two-year period after required compliance to accumulate necessary supporting records. The requirement of the Standard for determining

lives applies only to new assets acquired after the necessary records are available. Therefore, for most contractors implementation of the requirements of life determination will apply only to new assets acquired in accounting periods beginning January 1, 1978, or later.

The Board sees this Standard as establishing proper techniques for the measurement and allocation of depreciation expense. The Board believes, therefore, that this Standard can properly be promulgated at this time. The subject of inflation accounting concerns not only depreciation cost but all costs, and will be dealt with as part of the studies now in progress by both the CASB and the FASB.

(17) Costs and Benefits. Comments received on the June 11 and October 3 proposals indicated that there would be substantial administrative cost entailed in complying with this Standard. Part of the increased cost is attributed to required changes in accounting practices; a greater part is alleged to be related to increased controversy over the acceptability of current and proposed depreciation methods and lives.

A number of the administrative problems described in the comments have been reduced or eliminated by changes to the Standard. The requirement for recordkeeping, however, has not been eliminated. As discussed above, the Board recognizes that for some companies additional cost will be incurred to implement this aspect of the Standard. Also as discussed above, there may be some one-time analytical effort during the next two years to develop starting estimates of actual retention periods. The Board believes that these administrative costs, when reasonably managed in light of the purpose to be served, are warranted by the likelihood of better measurement of depreciation cost than has previously been available.

The Standard does not prescribe uniform accounting treatment. It enunciates principles and criteria for the implementation of these principles, which will achieve a practical degree of increased uniformity and consistency in fixed asset depreciation accounting techniques. In some cases, as for the determination of estimated service life, the Standard requires the establishment of records to achieve a better measurement of cost based on the manner in which contractors manage their fixed assets.

The benefits to be expected are better accounting for depreciation cost and enhanced ability to meet the responsibilities of the Government and of defense contractors to properly account for the expenditure of public funds. The Board recognizes that some additional costs will be incurred in obtaining compliance with this Standard. The benefits to be obtained are substantial, and the Standard contributes to fulfilling the Board's obligation to seek improved accounting for defense contracts.

There is also being published today (40 FR 4259) an amendment to Part

0. Definitions, to incorporate in that part terms defined in § 409.30(a) of this Standard Accounting Standard.

Part 409—Cost Accounting Standard
Depreciation of Tangible Capital Assets
added to read as follows:

- 9.10 General applicability.
- 9.20 Purpose.
- 9.30 Definitions.
- 9.40 Fundamental requirement.
- 9.50 Techniques for application.
- 9.60 Illustrations.
- 9.70 Exemptions.
- 9.80 Effective date.

AUTHORITY: 84 Stat. 796, sec. 103 (50 U.S.C. app. 2188).

409.10 General Applicability.

This Standard shall be used by defense contractors and subcontractors under Federal contracts entered into after the effective date hereof and by all relevant Federal agencies in estimating, accumulating, and reporting costs in connection with the pricing, administration, and settlement of all negotiated prime contract and subcontract national defense procurements with the United States in excess of \$100,000, other than contracts or subcontracts where the price negotiated is based on (a) established catalog or market prices of commercial items sold in substantial quantities to the general public, or (b) prices set by law or regulation.

409.20 Purpose.

The purpose of this Standard is to provide criteria and guidance for assigning costs of tangible capital assets to cost accounting periods and for allocating such costs to cost objectives within such periods in an objective and consistent manner. The Standard is based on the concept that depreciation costs identified with cost accounting periods and benefiting cost objectives within periods should be a reasonable measure of the expiration of service potential of the tangible assets subject to depreciation. Adherence to this Standard should provide a systematic and rational flow of the costs of tangible capital assets to benefited cost objectives over the expected service lives of the assets. This Standard does not cover nonwasting assets or natural resources which are subject to depletion.

409.30 Definitions.

(a) The following definitions of terms which are prominent in this Standard are printed from Part 400 of this chapter for convenience. Other terms which are used in this Standard and are defined in Part 400 of this chapter have the meanings ascribed to them in that part unless the text demands a different definition or the definition is modified in paragraph (b) of this section:

(1) *Residual value.* The proceeds (less removal and disposal costs, if any) realized upon disposition of a tangible capital asset. It usually is measured by the net proceeds from the sale or other disposition of the asset, or its fair value if the asset is traded in on another asset. The estimated residual value is a current forecast of the residual value.

(2) *Service life.* The period of usefulness of a tangible capital asset (or group of assets) to its current owner. The period may be expressed in units of time or output. The estimated service life of a tangible capital asset (or group of assets) is a current forecast of its service life and is the period over which depreciation cost is to be assigned.

(3) *Tangible capital asset.* An asset that has physical substance, more than minimal value, and is expected to be held by an enterprise for continued use or possession beyond the current accounting period for the services it yields.

(b) The following modifications of definitions set forth in Part 400 of this chapter are applicable to this Standard: None.

§ 409.40 Fundamental Requirement.

(a) The depreciable cost of a tangible capital asset (or group of assets) shall be assigned to cost accounting periods in accordance with the following criteria:

(1) The depreciable cost of a tangible capital asset shall be its capitalized cost less its estimated residual value.

(2) The estimated service life of a tangible capital asset (or group of assets) shall be used to determine the cost accounting periods to which the depreciable cost will be assigned.

(3) The method of depreciation selected for assigning the depreciable cost of a tangible capital asset (or group of assets) to the cost accounting periods representing its estimated service life shall reflect the pattern of consumption of services over the life of the asset.

(4) The gain or loss which is recognized upon disposition of a tangible capital asset shall be assigned to the cost accounting period in which the disposition occurs.

(b) The annual depreciation cost of a tangible capital asset (or group of assets) shall be allocated to cost objectives for which it provides service in accordance with the following criteria:

(1) Depreciation cost may be charged directly to cost objectives only if such charges are made on the basis of usage and only if depreciation costs of all like assets used for similar purposes are charged in the same manner.

(2) Where tangible capital assets are part of, or function as, an organizational unit whose costs are charged to other cost objectives based on measurement of the services provided by the organizational unit, the depreciation cost of such assets shall be included as part of the cost of the organizational unit.

(3) Depreciation costs which are not allocated in accordance with (b) (1) or (2) above shall be included in appropriate indirect cost pools.

(4) The gain or loss which is recognized upon disposition of a tangible capital asset, where material in amount, shall be allocated in the same manner as the depreciation cost of the asset has been or would have been allocated for the cost accounting period in which the disposition occurs. Where such gain or loss is not material, the amount may be included in an appropriate indirect cost pool.

§ 409.50 Techniques for application.

(a) Determination of the appropriate depreciation charges involves estimates both of service life and of the likely pattern of consumption of services in the cost accounting periods included in such life. In selecting service life estimates and in selecting depreciation methods many of the same physical and economic factors should be considered. The following are among the factors which may be taken into account: quantity and quality of expected output, and the timing thereof; costs of repair and maintenance, and the timing thereof; standby or incidental use and the timing thereof; and technical or economic obsolescence of the asset (or group of assets), or of the product or service it is involved in producing.

(b) Depreciation of a tangible capital asset shall begin when the asset and any others on which its effective use depends are ready for use in a normal or acceptable fashion. However, where partial utilization of a tangible capital asset is identified with a specific operation, depreciation shall commence on any portion of the asset which is substantially completed and used for that operation. Depreciable spare parts which are required for the operation of such tangible capital assets shall be accounted for over the service life of the assets.

(c) A consistent policy shall be followed in determining the depreciable cost to be assigned to the beginning and ending cost accounting periods of asset use. The policy may provide for any reasonable starting and ending dates in computing the first and last year depreciable cost.

(d) Tangible capital assets may be accounted for by treating each individual asset as an accounting unit, or by combining two or more assets as a single accounting unit, provided such treatment is consistently applied over the service life of the asset or group of assets.

(e) Estimated service lives initially established for tangible capital assets (or groups of assets) shall be reasonable approximations of their expected actual periods of usefulness, considering the factors mentioned in paragraph (a) of this section. The estimate of the expected actual periods of usefulness need not include the additional period tangible capital assets are retained for standby or incidental use where adequate records are maintained which reflect the withdrawal from active use.

(1) The expected actual periods of usefulness shall be those periods which are supported by records of either past retirement or, where available, withdrawal from active use (and retention for standby or incidental use) for like assets (or groups of assets) used in similar circumstances appropriately modified for specifically identified factors expected to influence future lives. The factors which can be used to modify past experience include:

(i) Changes in expected physical usefulness from that which has been experienced such as changes in the quantity and quality of expected output.

(ii) Changes in expected economic usefulness, such as changes in expected

economic obsolescence of (or group of assets), or of the service produced.

Records shall be maintained which are adequate to show the element or, if the contractor at withdrawal from active operation for standby or incidental use, for a sample of assets for each category. Whether ascertained for individually or by basis for estimating service life predicated on supporting experienced lives for either assets or any reasonable assets as long as that basis is used. The burden shall be on the contractor to justify estimated lives which are shorter than such lives.

Records required in paragraph (2) of this section, if not the date when the requirement Standard must first be followed by the contractor, shall be developed and historical fixed asset data be available following the year after that date. They shall be used as a basis for estimates of the service lives of tangible capital assets thereafter. Estimated service lives for financial accounting purposes shall be recorded for depreciation purposes for some organizations, if not under the criteria specified in paragraph (e) of this section, shall be supported by adequate supporting records.

Estimated service lives for tangible assets for which the contractor has no prior experience shall be established on a projection of the expected period of usefulness, but not less than asset guideline percentage established for asset classes under the Revenue Ruling 2-10 published by the Internal Revenue Service, and any amendments or revisions thereto, to have the effect as of the first day of the accounting period in which the asset is acquired. Use of this alternative shall cease as soon as the contractor is able to develop estimates properly supported by his experience.

The contracting parties may agree on estimated service life of individual tangible assets where the unique characteristics of the equipment was acquired under special circumstances or shorter estimated service life is determined in accordance with provisions of this § 409.50 where the shorter life can be justified.

The method of depreciation for financial accounting purposes shall be used for depreciation purposes where determined not recorded for financial accounting purposes shall be used for depreciation unless (i) such method reasonably reflect the expected consumption of services for the tangible (or group of assets) to which

applied, or (ii) the method is unacceptable for Federal income tax purposes. If the contractor's method of depreciation used for financial accounting purposes (or other accounting purposes as provided above) does not reasonably reflect the expected consumption of services or is unacceptable for Federal income tax purposes, he shall establish a method of depreciation for contract costing which meets these criteria, in accordance with paragraph (f) (3) of this section.

(2) After the date of initial applicability of this Standard, selection of methods of depreciation for newly acquired tangible capital assets, which are different from the methods currently being used for like assets in similar circumstances, shall be supported by projections of the expected consumption of services of those assets (or groups of assets) to which the different methods of depreciation shall apply. Support in accordance with paragraph (f) (3) of this section shall be based on the expected consumption of services of either individual assets or any reasonable grouping of assets as long as the basis selected for grouping assets is consistently used.

(3) The expected consumption of asset services over the estimated service life of a tangible capital asset (or group of assets) is influenced by the factors mentioned in paragraph (a) of this section which affect either potential activity or potential output of the asset (or group of assets). These factors may be measured by the expected activity or the expected physical output of the assets, as for example: Hours of operation, number of operations performed, number of units produced, or number of miles traveled. An acceptable surrogate for expected activity or output might be a monetary measure of that activity or output generated by use of tangible capital assets, such as estimated labor dollars, total cost incurred or total revenues, to the extent that such monetary measures can reasonably be related to the usage of specific tangible capital assets (or groups of assets). In the absence of reliable data for the measurement or estimation of the consumption of asset services by the techniques mentioned, the expected consumption of services may be represented by the passage of time. The appropriate method of depreciation should be selected as follows:

(i) An accelerated method of depreciation is appropriate where the expected consumption of asset services is significantly greater in early years of asset life.

(ii) The straight-line method of depreciation is appropriate where the expected consumption of asset services is reasonably level over the service life of the asset (or group of assets).

(g) The estimated service life and method of depreciation to be used for an original complement of low-cost equipment shall be based on the expected consumption of services over the expected useful life of the complement as a whole and shall not be based on the individual items which form the complement.

(h) Estimated residual values shall be determined for all tangible capital assets

(or groups of assets). For tangible personal property, only estimated residual values which exceed ten percent of the capitalized cost of the asset (or group of assets) need be used in establishing depreciable costs. Where either the declining balance method of depreciation or the class life asset depreciation range system is used consistent with the provisions of this Standard, the residual value need not be deducted from capitalized cost to determine depreciable costs. No depreciation cost shall be charged which would significantly reduce book value of a tangible capital asset (or group of assets) below its residual value.

(i) Estimates of service life, consumption of services, and residual value shall be reexamined for tangible capital assets (or group of assets) whenever circumstances change significantly. Where changes are made to the estimated service life, residual value, or method of depreciation during the life of a tangible capital asset, the remaining depreciable costs for cost accounting purposes shall be limited to the undepreciated cost of the assets and shall be assigned only to the cost accounting period in which the change is made and to subsequent periods.

(j) (1) Gains and losses on disposition of tangible capital assets shall be considered as adjustments of depreciation costs previously recognized and shall be assigned to the cost accounting period in which disposition occurs except as provided in paragraphs (h) (2) and (3) of this section. The gain or loss for each asset disposed of is the difference between the net amount realized, including insurance proceeds in the event of involuntary conversion, and its undepreciated balance. However, the gain to be recognized for contract costing purposes shall be limited to the difference between the original acquisition cost of the asset and its undepreciated balance.

(2) Gains and losses on the disposition of tangible capital assets shall not be recognized where: (i) Assets are grouped and such gains and losses are processed through the accumulated depreciation account, or, (ii) the asset is given in exchange as part of the purchase price of a similar asset and the gain or loss is included in computing the depreciable cost of the new asset. Where the disposition results from an involuntary conversion and the asset is replaced by a similar asset, gains and losses may either be recognized in the period of disposition or used to adjust the depreciable cost base of the new asset.

(3) The contracting parties may account for gains and losses arising from mass or extraordinary dispositions in a manner which will result in treatment equitable to all parties.

(4) Gains and losses on disposition of tangible capital assets transferred in other than an arms-length transaction and subsequently disposed of within 12 months from the date of transfer shall be assigned to the transferor.

(k) Where, in accordance with § 409.40 (b) (1), the depreciation costs of like tangible capital assets used for similar

poses are directly charged to cost objectives on the basis of usage, average charging rates based on cost shall be established for the use of such assets. Any variances between total depreciation cost charged to cost objectives and total depreciation cost for the cost accounting period shall be accounted for in accordance with the contractor's established practice for handling such variances.

(1) Practices for determining depreciation methods, estimated service lives and estimated residual values need not be changed for assets acquired prior to compliance with this Standard if otherwise acceptable under applicable procurement regulations. However, changes are effected such changes must conform to the criteria established in this Standard and may be effected on a prospective basis to cover the undepreciated balance of cost by agreement between the contracting parties pursuant to negotiation under (a) (4) (B) of the Contract Clause set out at § 331.50 of the board's regulations (4 CFR 331.50).

409.60 Illustrations.

The following examples are illustrative of the provisions of this Standard.

(a) X, Y, and Z companies purchase identical milling machines to be used for similar purposes.

(1) Company X estimates service life for tangible capital assets on an individual asset basis. Its experience with similar machines is that the average replacement period is 14 years. Under the provisions of the Standard, Company X shall use the estimated service life of 14 years for the milling machine unless it can demonstrate changed circumstances or new circumstances to support a different estimate.

(2) Company Y estimates service life for tangible capital assets by grouping assets of the same general kind and with similar service lives. Accordingly, all machine tools are accounted for as a single group. The average replacement life for machine tools for Company Y is 12 years. In accordance with the provisions of the Standard, Company Y shall use a life of 12 years for the acquisition unless it can support a different estimate for the entire group.

(3) Company Z estimates service life for tangible capital assets by grouping assets according to use without regard to service lives. Accordingly, all machinery and equipment is accounted for as a single group. The average replacement life for machinery and equipment in Company Z is ten years. In accordance with the provisions of the Standard, Company Z shall use an estimated service life of ten years for the acquisition unless it can support a different estimate for the entire group.

(b) Company X desires to charge depreciation of the milling machine described in (a) directly to final cost objectives. Usage of the milling machine can be measured readily based on hours of operation. Company X may charge depreciation cost directly on a unit of time basis provided he uses one depreciation charging rate for all like milling ma-

chines in the machine shop and charges depreciation for all such milling machines directly to benefiting cost objectives.

(c) A contractor acquires, and capitalizes as an asset accountability unit, a new lathe. The estimated service life is ten years for the lathe. He acquires, and capitalizes as an original complement of low-cost equipment related to the lathe, a collection of tool holders, chucks, indexing heads, wrenches, and the like. Although individual items comprising the complement have an average life of six years, replacements of these items will be made as needed and, therefore, the expected useful life of the complement is equal to the life of the lathe. An estimated service life of ten years should be used for the original complement.

(d) A contractor acquires a test facility with an estimated physical life of ten years, to be used on contracts for a new program. The test facility was acquired for \$5 million. It is expected that the program will be completed in six years and the test facility acquired is not expected to be required for other products of the contractor. Although the facility will last ten years, the contracting parties may agree in advance to depreciate the facility over six years.

(e) Contractor acquires a building by donation from its local Government. The building had been purchased new by another company and subsequently acquired by the local Government. Contractor capitalizes the building at its fair value. Under the Standard the depreciable cost of the asset based on that value may be accounted for over its estimated service life and allocated to cost objectives in accordance with contractor's cost allocation practices.

(f) A major item of equipment which was acquired prior to the applicability of this Standard was estimated, at acquisition, to have a service life of 12 years and a residual value of no more than 10 percent of acquisition cost. After four years of service, during which time this Standard has become applicable, a change in the production situation results in a well-supported determination to shorten the estimated service life to a total of seven years. The revised estimated residual value is 15 percent of acquisition cost. The manual depreciation charges based on this particular asset will be appropriately increased to amortize the remaining cost, less the current estimate of residual value, over the remaining three years of expected usefulness. This change is not a change of cost accounting practice, but a correction of numeric estimates. The requirement of § 409.50(1) for an adjustment pursuant to section (a) (4) (B) of the CAS clause does not apply.

(g) The support required by § 409.50 (e) can, in all likelihood, be derived by sampling from almost any reasonable fixed asset records. Of course, the more complete the data in the records which are available, the more confidence there can be in determinations of asset service lives. The following descriptions of sampling methods are illustrations of tech-

niques which may be useful even with limited fixed asset records.

(1) A company maintains an inventory of assets in use. The company should select a sampling time period which, preferably, is significantly longer than the anticipated life of the assets for which lives are to be established. Of course, the inventory must be available for each year in the sampling time period. The company would then select a random sample of items in each year except the most recent year of the time period. Each item in the sample would be compared to the subsequent year's inventory to determine if the asset is still in service; if not, then the asset had been retired in the year from which the sample was drawn. The item is then traced to prior year inventories to determine the year in which acquired.

Note: Sufficient items must be drawn in each year to assure an adequate sample.

(2) A company maintains an inventory of assets in use and also has a record of retirements. In this case the company does not have to compare the sample to subsequent years to determine if disposition has occurred. As in Example (1) above the sample items are traced to prior years to determine the year in which acquired.

(3) A company maintains retirement records which show acquisition dates. The company should select a sampling time period which, preferably, is significantly longer than the anticipated life of the assets for which lives are to be estimated. The company would then select a random sample of items retired in each year of the sampling time period and tabulate age at retirement.

(4) A company maintains only a record of acquisitions for each year. The company should select a random sample of items acquired in the most recent complete year and determine from current records or observations whether each item is currently in service. The acquisitions of each prior year should be sampled in turn to determine if sample items are currently in service. This sampling should be performed for a time period significantly longer than the anticipated life of assets for which the lives are to be established, but can be discontinued at the point at which sample items no longer appear in current use. From the data obtained, mortality tables can be constructed to determine average asset life.

(5) A company does not maintain accounting records on fully depreciated assets. However, property records are maintained, and such records are retained for three years after disposition of an asset in groups by year of disposition. An analysis of these retirements may be made by selecting the larger dollar items for each category of assets for which lives are to be determined (for example, at least 75 percent of the acquisition values retired each year). The cases cited above are only examples and many other examples could have been used. Also in any example, a company's individual circumstances must be considered in order to take into account

possible biased results because of changes in organizations, products, acquisition policies, economic factors, etc. The results from example (g)(5), for instance, might be substantially distorted if the three year period was unusual with respect to dispositions. Therefore, the examples are illustrative only and any sampling performed in compliance with this Standard should take into account all relevant information to assure that reasonable results are obtained.

§ 409.70 Exemption.

This Standard shall not apply where compensation for the use of tangible capital assets is based on use allowances as provided for by the provisions of Federal Management Circular 73-8 (Cost Principles for Educational Institutions), Federal Management Circular 74-4 (Principles for Determining Costs Applicable to Grants and Contracts with State and Local Governments), or other appropriate Federal procurement regulations.

§ 409.80 Effective date.

(a) The effective date of this Cost Accounting Standard is [Reserved].

(b) This Cost Accounting Standard shall be followed by each contractor for all tangible capital assets acquired on or after the start of his next fiscal year beginning after the receipt of a contract to which this Cost Accounting Standard is applicable.

ARTHUR SCHOENHAUT,
Executive Secretary.

[FR Doc.75-2626 Filed 1-28-75;8:45 am]

APPENDIX D: DCAA QUESTIONNAIRE

QUESTIONNAIRE TO DETERMINE AVAILABILITY AND CONTENT OF CONTRACTOR FIXED ASSET RECORDS

1. Describe briefly the various types of fixed asset records maintained by the contractor.

2. Is the date of asset or asset group acquisition shown in the fixed asset records?

A. All owned assets_____.

B. Some owned assets_____. Explain.

C. None_____.

3. Is the date of asset or asset group disposition shown in the fixed asset records?

A. All owned assets_____.

B. Some owned assets_____. Explain.

C. None_____.

4. Is the acquisition cost for individual assets or asset groups shown in the fixed asset records?

A. All owned assets_____.

B. Some owned assets_____. Explain.

C. None_____.

5. The Standard provides that estimated service lives need not include the period when an asset or asset group is retained for standby or incidental usage after the expiration of its useful life. Explain briefly the extent the contractor's records show such information.

6. Describe briefly the contractor's policy on the retention of fixed asset records. In your description, please indicate whether significant data, such as asset acquisition dates, asset disposition dates, etc., are eliminated from the fixed asset records:

A. After assets or asset groups are fully depreciated but prior to retirement.

B. After assets or asset groups are retired.

7. Describe the status of the contractor's fixed asset records:

A. Records are adequate to determine service lives.

B. Records are available but require analysis to determine service lives.

C. Records are unavailable.

APPENDIX E: THE SURVEY QUESTIONNAIRE

8 June 1979

Dear Corporate Controller:

I am a graduate student in financial management at the Naval Postgraduate School. Enclosed is a brief questionnaire to collect data for a master's thesis concerning the impact of Cost Accounting Standard #409 (Depreciation of Tangible Capital Assets) on the defense industry.

The promulgation of this standard on depreciation (CAS #409) by the Cost Accounting Standards Board in 1975 concluded extensive research and rewriting that included two exposure drafts in the Federal Register and subsequent Congressional review by committees of the Senate and House of Representatives. A review of defense contractor and trade association responses to the exposure drafts and testimony given at the Congressional hearings indicated interest by a significant segment of the defense industry. The purpose of my thesis and this questionnaire is to examine many of these issues and to assess the impact of CAS #409 to date.

The enclosed questionnaire is designed to be completed at the corporate level and to reflect the views of industry. If you would like to amplify your answers or make additional comments, please attach continuation pages and make reference to the question to which comments apply. Responses will be held in strict confidence. I assure you that responses will be used only for the purpose of this research, that individual responses will not be made available to anyone, including representatives of U. S. Government agencies, and that results will be presented in tabulated form only and all references will be non-attributive. A return envelope is enclosed for your convenience.

If you have any questions about this survey or the questionnaire or would like a copy of the survey results, please contact Jack Kline, SMC# 2214, Naval Postgraduate School, Monterey, California 93940, or call me at 408-649-2536 (leave message).

In advance, I would like to thank you for your assistance in this research.

Sincerely yours,

J. C. KLINE
LCDR SC USN

QUESTIONNAIRE TO ASSESS THE IMPACT
OF COST ACCOUNTING STANDARD #409
ON THE DEFENSE INDUSTRY

I. RESPONDENT DATA:

1. Please indicate the approximate amount of total annual sales for your company in millions of dollars.

50 Respondents \$ 156.4 billion

2. Please indicate total sales to the U.S. Government in millions of dollars.

50 Respondents \$ 16.3 billion

3. Please indicate the percentage of sales reported in response 2 that were CAS-covered prime contracts and subcontracts.

_____ * _____ %

4. Please indicate what percent of cost of sales to the U. S. Government is depreciation expense. _____ * _____ %

II. THE FOLLOWING QUESTIONS SOLICIT THE RESPONDENT'S OPINION REGARDING VARIOUS ASPECTS OF CAS #409 AS PROMULGATED. RESPONSES SHOULD BE FROM THE CONTRACTOR'S POINT OF VIEW.

5. Please indicate the clarity with which CAS #409 communicates its requirement. (Circle one)

Very Clear (3) Fairly Clear (27) Marginally Clear (14) Fairly Unclear (3) Very Unclear (2) No Opinion (0)

6. Please indicate the effect on the control of cost during contract performance provided by CAS #409. (Circle one)

Increased Control (1) No Effect (46) Decreased Control (1) No Opinion (1)

7. Please indicate the effect on the visibility of depreciation data provided by CAS #409. (Circle one)

Increased Visibility (10) No Effect (37) Decreased Visibility (2) No Opinion (0)

8. Please indicate the effect of CAS #409 on the frequency of Contractor/Government disagreements. (Circle one)

Increased Frequency (31) No Effect (14) Decreased Frequency (1) No Opinion (3)

9. Please indicate the effect CAS #409 has had or is expected to have on contract negotiation. (Circle one)

Made Easier (0) No Effect (22) Made More Difficult (24) No Opinion (2)

Please indicate the effect CAS #409 has had or is expected to have on contract administration. (Circle one)

Made Easier (0) No Effect (24) Made More Difficult (24) No Opinion (2)

Please indicate the effect CAS #409 has had or is expected to have on auditing. (Circle one)

Made Easier (1) No Effect (11) Made More Difficult (37) No Opinion (1)

Please indicate the effect CAS #409 has had or is expected to have on contract settlement. (Circle one)

Made Easier (1) No Effect (18) Made More Difficult (29) No Opinion (2)

THE FOLLOWING QUESTIONS RELATE TO YOUR COMPANY'S EXPERIENCE IN IMPLEMENTING THE STANDARD.

Please indicate the method(s) of depreciation commonly used by your company for (a) defense contract costing, (b) financial accounting and (c) income tax reporting before and after implementation of CAS #409. Where more than one method of depreciation is used, rank in order of significance (for example 1,2,3).

Note: Data reflects Respondents' primary method.

<u>Depreciation Method</u>	(a) Contract Costing		(b) Financial Accounting		(c) Tax Reporting	
	<u>Before</u>	<u>After</u>	<u>Before</u>	<u>After</u>	<u>Before</u>	<u>After</u>
Straight line	<u>23</u>	<u>23</u>	<u>27</u>	<u>27</u>	<u>9</u>	<u>9</u>
Declining balance	<u>14</u>	<u>13</u>	<u>13</u>	<u>12</u>	<u>25</u>	<u>24</u>
Sum-of-the-years digits	<u>9</u>	<u>9</u>	<u>7</u>	<u>7</u>	<u>11</u>	<u>11</u>
Machine hours	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>0</u>
Unit of production	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Other _____	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>4</u>	<u>4</u>

If your answer to the previous question indicated a change in depreciation method, what was the approximate implementation cost?

Only three respondents reported change \$ Insignificant

Prior to CAS #409 what method or procedure was used for determining useful life? (Check as many as applicable)

- a. 10 Historical experience
- b. 40 IRS asset "guideline lives"
- c. 14 Engineering estimate
- d. 20 Estimate of economic life
- e. 2 Other (specify) _____

16. When CAS #409 was promulgated, did your company have adequate records to calculate historical service lives of depreciable assets? Yes 14 No 34
- a. If not, what data were lacking? (Check all that apply)
- (1) 3 acquisition dates
 - (2) 3 acquisition costs
 - (3) 29 record of standby or incidental use
 - (4) 8 disposition dates
 - (5) 14 historical records not retained to permit statistical sampling
 - (6) 6 other (specify) _____
- b. What were the approximate implementation costs of analyzing these records, if they existed, or developing them, if they did not exist?:
- 29 Respondents reported \$Mean:\$110,690 Range:\$2-1,500K
- c. What are the estimated continuing annual costs of maintaining these records?
- 23 Respondents reported \$Mean:\$44,674 Range:\$1-500K
- d. Briefly describe the actions taken to develop the necessary recordkeeping to comply with the Standard *
- _____
- _____
- _____
17. CAS #409 provides for adjusting historical service lives to reflect circumstances expected to influence and shorten future lives. Has your company modified service life estimates under this provision? Yes 12 No 33
- (a) If yes, what has been the basic criterion?
- (1) 3 Change in expected physical usefulness
 - (2) 6 Change in expected economic usefulness
 - (3) 3 Other (specify) _____
- (b) Has this been generally acceptable to government contracting officers and auditors. Yes 14 No 6 *
- (1) If not, please comment _____
- _____
- (c) In your opinion, have government contracting officers and auditors received adequate written guidance to evaluate contractor service life estimates? Yes 11 No 19
18. CAS #409 requires service lives of assets to be based on individual company experience. In your opinion, is this "tailored" approach more equitable than a fixed schedule of service lives applicable to all contractors (for example, the IRS Guidelines)? Yes 16 No 31
19. CAS #409 provides that unique assets that are expected to be useful only for a particular contract can have their service lives adjusted to reflect these circumstances. Has your experience to date with contracting agencies or auditors indicated any problems with this provision? Yes 7 No 34

2. CASB Chairman Staats stated that the total impact on contractor cash flow "would not occur until the full cycle of asset replacement is completed."

a. Will CAS #409, as implemented, have the effect of reducing your company's cash flow? Yes 13 No 31

(1) If yes, what is the estimated average annual dollar amount?

9 Respondents reported

\$ Mean: \$3353K Range: \$25-25000K

b. For your company, how many years will it require to complete a "full cycle of asset replacement"? *

3. CAS #409 was criticized as having a negative impact on profits, capital formation and investment. Have subsequent changes to DoD profit policy (weighted guidelines) and CAS #414 (Cost of Money as an Element of the Cost of Facilities Capital) mitigated the impact of CAS #409 on profitability and cash flow? Yes 15 No 31

4. Though the requirements of CAS #409 were phased and asserted not to affect contracts until 1978, did the Standard have any negative impact on your company's capital budget and investment decisions when promulgated? Yes 2 No 44

a. If yes, to date what is the estimated amount of investment not undertaken as a result of this Standard? \$ Not Quantified

5. Has CAS #409 affected the proportion of new investments financed by internal cash flow as opposed to new external financing? Yes 1 No 46

4. Have you required additional amounts of government owned facilities for contracts or do you intend to do so as a consequence of investment disincentives in CAS #409? Yes 5 No 42

5. a. Has the promulgation of CAS #409 caused your company to limit or reduce participation in Government contracts? Yes 2 No 44

b. Has there been a reluctance or refusal by your smaller sub-contractors to participate in CAS-covered contracts as a result of this Standard? Yes 5 No 35

6. Has your company experienced any disputes with procurement officials or auditors regarding implementation and compliance with CAS #409? Yes 26 No 21

a. If yes, what is the general nature of the dispute?

(1) 12 Recordkeeping requirements

(2) 22 Service life determination

(3) 6 Depreciation method

(4) 6 Other (specify) _____

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